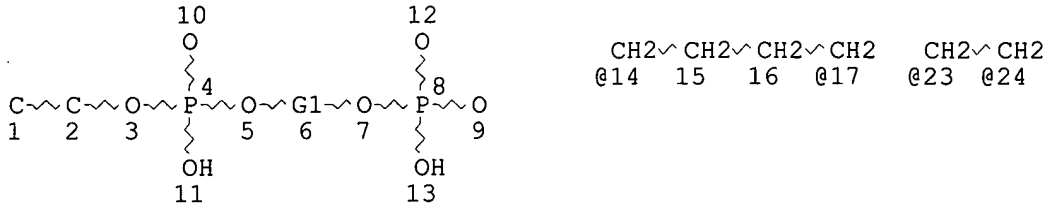
Krishnan
09/847654

Str.

Claims 5 & 10 & 15

(FILE 'REGISTRY' ENTERED AT 15:26:44 ON 09 OCT 2002)

L2 STR

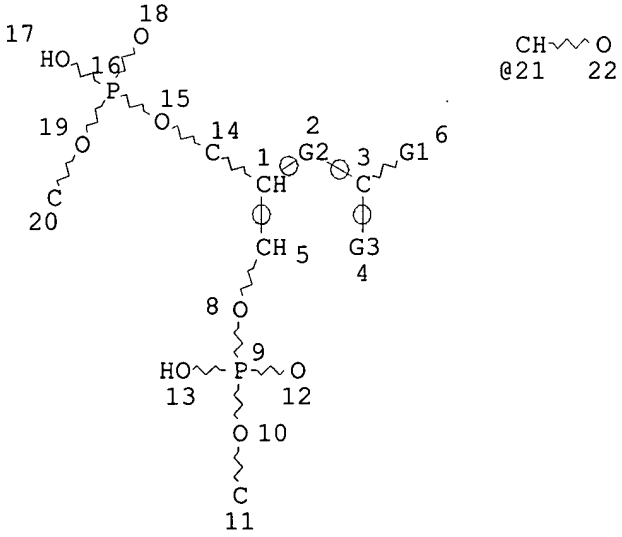


VAR G1=14-5 17-7/23-5 24-7/18-5 22-7
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE

L7 STR



Claims 16 (A = C) and 21 - 23

VAR G1=H/HY
VAR G2=N/O/P/S
VAR G3=CH2/21
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 21

Searcher : Shears 308-4994

STEREO ATTRIBUTES: NONE
L9 1143 SEA FILE=REGISTRY SSS FUL L2 OR L7

100.0% PROCESSED 42747 ITERATIONS 1143 ANSWERS
SEARCH TIME: 00.00.23

(FILE 'HCAPLUS' ENTERED AT 15:30:13 ON 09 OCT 2002)
L10 383 S L9
L11 20 S L10 AND (?MICROB? OR ?BACTER?)

E1 THROUGH E52 ASSIGNED

L11 ANSWER 1 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:696696 HCAPLUS
TITLE: Charge tags and the separation of nucleic acid molecules
INVENTOR(S): Lyamichev, Victor; Skrzpczynski, Zbigniew; Allawi, Hatim T.; Wayland, Sarah R.; Takova, Tsetska; Neri, Bruce P.
PATENT ASSIGNEE(S): Third Wave Technologies, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 120 pp., Cont.-in-part of U. S. Ser. No. 333,145.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 11
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002128465	A1	20020912	US 2001-777430	20010206
US 6001567	A	19991214	US 1996-682853	19960712
WO 2002063030	A2	20020815	WO 2002-US3423	20020206

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:
US 1996-682853 A2 19960712
US 1999-333145 A2 19990614
US 1996-599491 A2 19960124
US 2001-777430 A 20010206

AB The present invention provides charge tags for attachment to materials including solid supports and nucleic acids, wherein the charge tags increase or decrease the net charge of the material. Thus, when an oligonucleotide modified with a charge tag is reduced in size (cleaved) or increased in size (elongated), the resulting product bears a net charge or a charge to mass ratio different from the original oligonucleotide thereby permitting sepn. of the original and product oligonucleotides on the basis of charge. The present invention therefore further provides methods for sepg. and

characterizing mols. based on the charge differentials between modified and unmodified materials, e.g., by capillary electrophoresis. Thus, MCP1 and ubiquitin transcripts were simultaneously detected in an in vitro assay using the Invader technol. and probes charge tagged with one of two phosphoramidates, i.e., dG-P-Cy3 or dC-P-Cy3 in which P = -O-P(:O)(NHCH2CH2NMe2)O-.

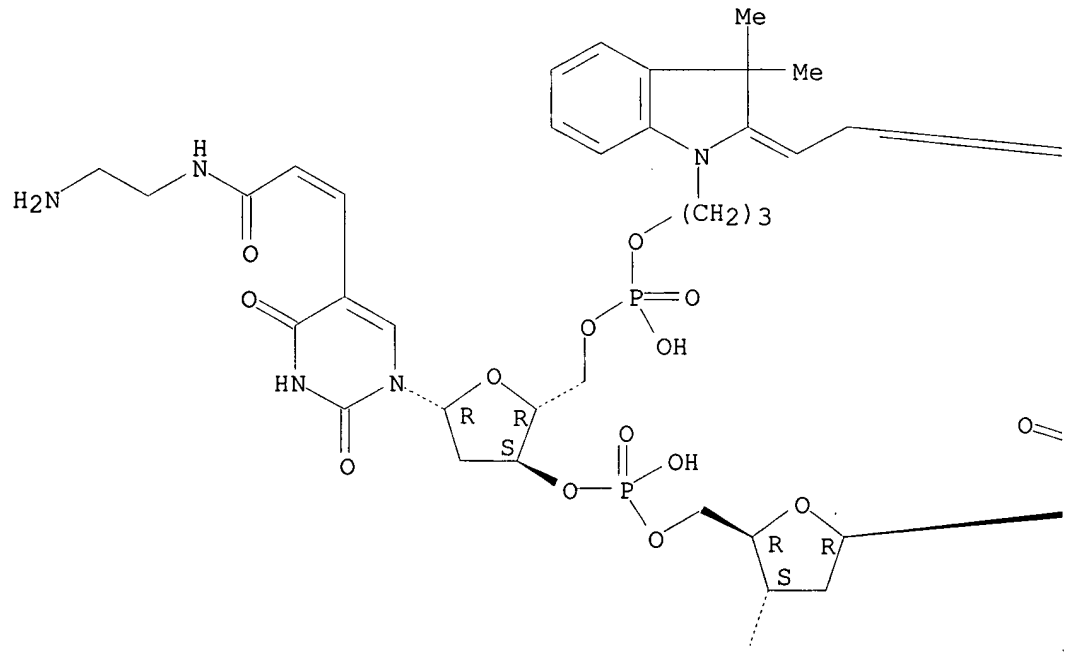
IT **446017-73-8D**, oligonucleotide conjugates
446017-74-9D, oligonucleotide conjugates
RL: ARU (Analytical role, unclassified); PRP (Properties); ANST (Analytical study)
(charge tags and sepn. of nucleic acid mols.)

RN 446017-73-8 HCAPLUS

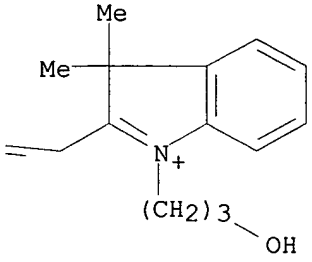
CN 3'-Uridylic acid, 5-[3-[(2-aminoethyl)amino]-3-oxo-1-propenyl]-2'-deoxy-5'-O-[[3-[2,3-dihydro-2-[3-[1-(3-hydroxypropyl)-3,3-dimethyl-3H-indolium-2-yl]-2-propenylidene]-3,3-dimethyl-1H-indol-1-yl]propoxy]hydroxyphosphinyl]uridylyl-(3'.fwdarw.5')-5-[3-[(2-aminoethyl)amino]-3-oxo-1-propenyl]-2'-deoxy- (9CI) (CA INDEX NAME)

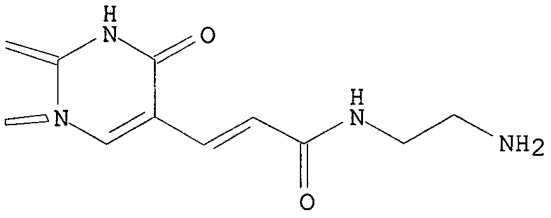
Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A



PAGE 1-B





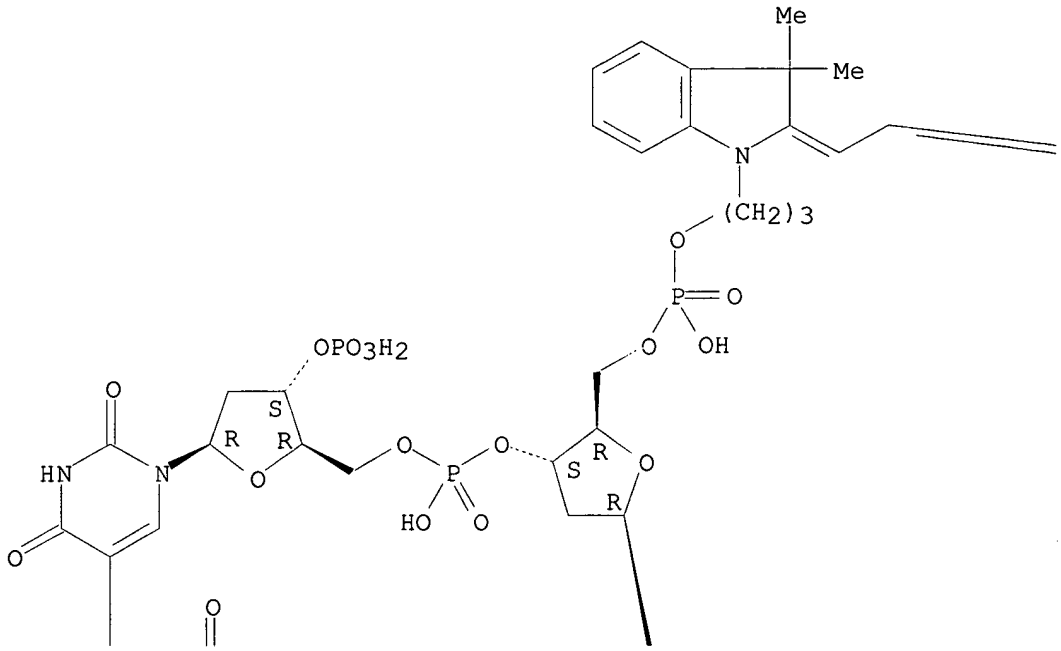
PAGE 2-A

H_2O_3PO

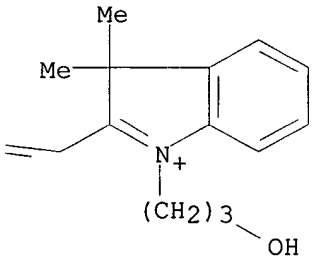
RN 446017-74-9 HCAPLUS
CN 3'-Uridylic acid, 5-[3-[(6-aminohexyl)amino]-3-oxo-1-propenyl]-2'-deoxy-5'-O-[[3-[2,3-dihydro-2-[3-[1-(3-hydroxypropyl)-3,3-dimethyl-3H-indolium-2-yl]-2-propenylidene]-3,3-dimethyl-1H-indol-1-yl]propoxy]hydroxyphosphinyl]uridylyl-(3'.fwdarw.5')-5-[3-[(6-aminohexyl)amino]-3-oxo-1-propenyl]-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

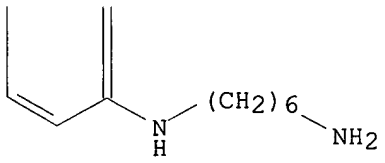
PAGE 1-A

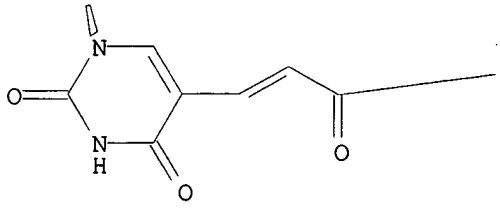


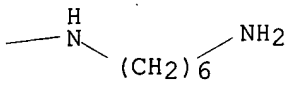
PAGE 1-B



PAGE 2-A







L11 ANSWER 2 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:615883 HCAPLUS
DOCUMENT NUMBER: 137:164653
TITLE: Charge tags and separation of nucleic acid molecules
INVENTOR(S): Lyamichev, Victor; Skrzpczynski, Zbigniew; Allawi, Hatim T.; Wayland, Sarah R.; Takova, Tsetska; Neri, Bruce P.
PATENT ASSIGNEE(S): Third Wave Technologies, Inc., USA
SOURCE: PCT Int. Appl., 197 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 11
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002063030	A2	20020815	WO 2002-US3423	20020206
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002128465	A1	20020912	US 2001-777430	20010206

PRIORITY APPLN. INFO.: US 2001-777430 A 20010206
US 1996-682853 A2 19960712
US 1999-333145 A2 19990614
OTHER SOURCE(S): MARPAT 137:164653

AB The present invention provides charge tags for attachment to materials including solid supports and nucleic acids, wherein the charge tags increase or decrease the net charge of the material. Thus, when an oligonucleotide modified with a charge tag is reduced in size (cleaved) or increased in size (elongated), the resulting product bears a net charge or a charge to mass ratio different from the original oligonucleotide thereby permitting sepn. of the original and product oligonucleotides on the basis of charge. The present invention therefore further provides methods for sepg. and characterizing mols. based on the charge differentials between modified and unmodified materials, e.g., by capillary electrophoresis. Thus, MCP1 and ubiquitin transcripts were simultaneously detected in an in vitro assay using the Invader technol. and probes charge tagged with one of two phosphoramidates,

i.e., dG-P-Cy3 or dC-P-Cy3 in which P = -O-P(:O)(NHCH2CH2NMe2)O-.

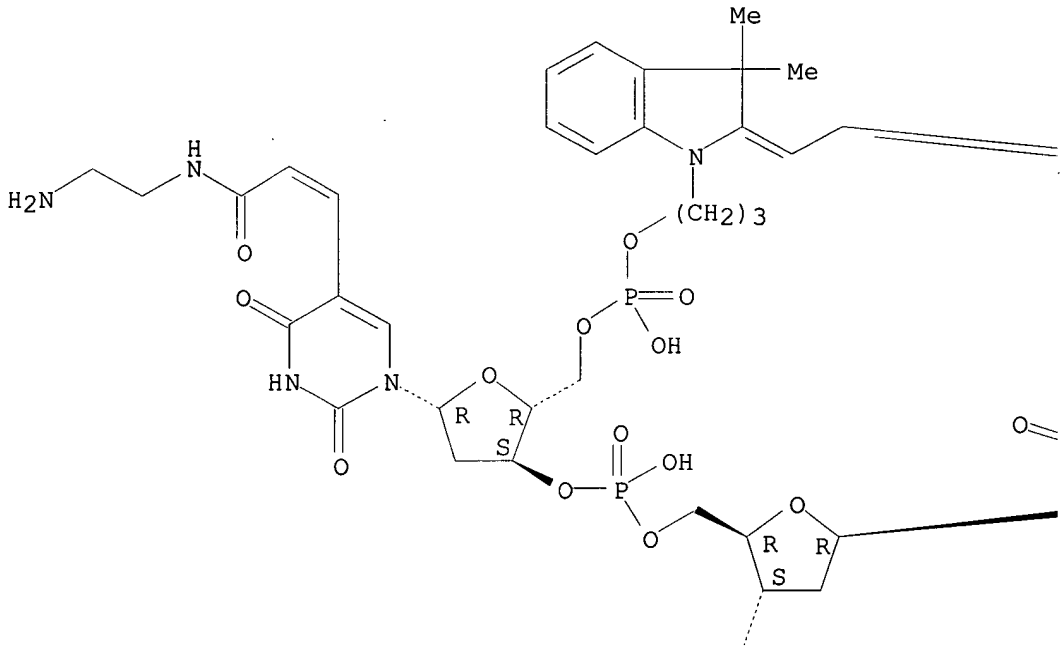
IT **446017-73-8D**, oligonucleotide conjugates
446017-74-9D, oligonucleotide conjugates
RL: ARU (Analytical role, unclassified); PRP (Properties); ANST (Analytical study)
(charge tags and sepn. of nucleic acid mols.)

RN 446017-73-8 HCAPLUS

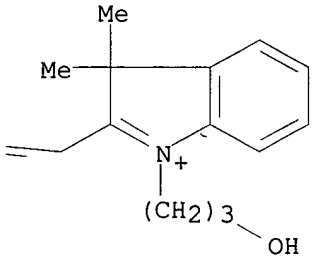
CN 3'-Uridylic acid, 5-[3-[(2-aminoethyl)amino]-3-oxo-1-propenyl]-2'-deoxy-5'-O-[[3-[2,3-dihydro-2-[3-[1-(3-hydroxypropyl)-3,3-dimethyl-3H-indolium-2-yl]-2-propenylidene]-3,3-dimethyl-1H-indol-1-yl]propoxy]hydroxyphosphinyl]uridylyl-(3'.fwdarw.5')-5-[3-[(2-aminoethyl)amino]-3-oxo-1-propenyl]-2'-deoxy- (9CI) (CA INDEX NAME)

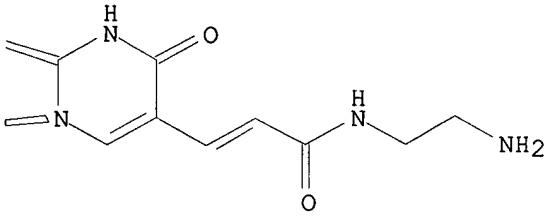
Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A

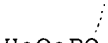


PAGE 1-B





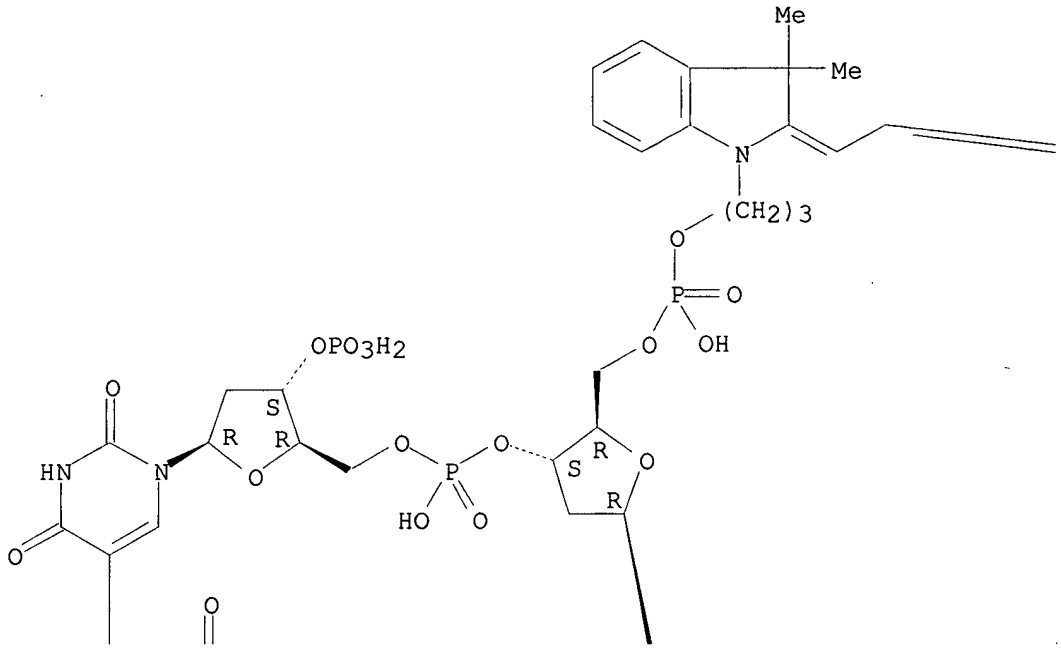
PAGE 2-A



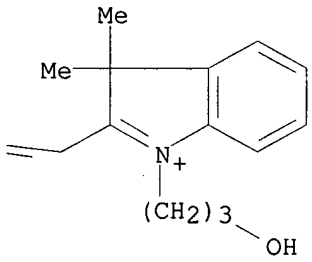
RN 446017-74-9 HCAPLUS
CN 3'-Uridylic acid, 5-[3-[(6-aminohexyl)amino]-3-oxo-1-propenyl]-2'-deoxy-5'-O-[[3-[2,3-dihydro-2-[3-[1-(3-hydroxypropyl)-3,3-dimethyl-3H-indolium-2-yl]-2-propenylidene]-3,3-dimethyl-1H-indol-1-yl]propoxy]hydroxyphosphinyl]uridylyl-(3'.fwdarw.5')-5-[3-[(6-aminohexyl)amino]-3-oxo-1-propenyl]-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

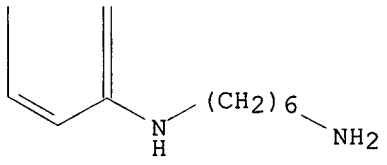
PAGE 1-A

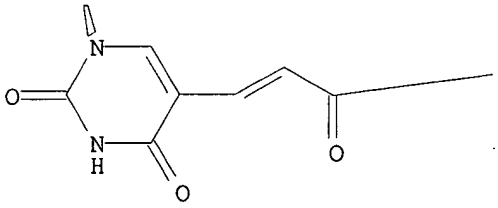


PAGE 1-B

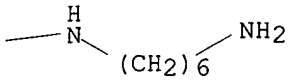


PAGE 2-A





Searcher : Shears 308-4994



L11 ANSWER 3 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:185692 HCAPLUS
DOCUMENT NUMBER: 136:236873
TITLE: Protonated **antimicrobial** compounds
INVENTOR(S): Dale, Roderic M. K.; Gatton, Steven L.; Arrow, Amy; Thompson, Terry
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 28 pp., Cont.-in-part of U.S. Ser. No. 281,858.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002032164	A1	20020314	US 2001-847654	20010503
US 6211349	B1	20010403	US 1998-222009	19981230

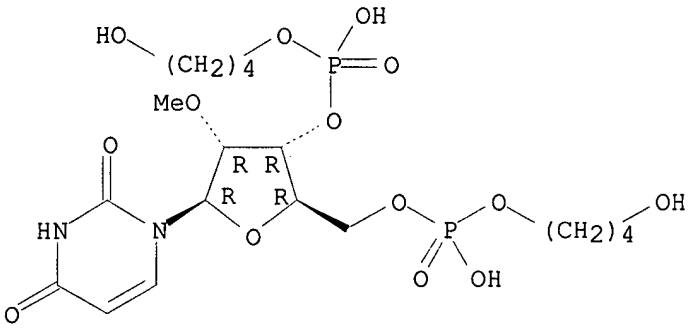
PRIORITY APPLN. INFO.: US 1998-222009 A2 19981230
US 1999-281858 A2 19990331
OTHER SOURCE(S): MARPAT 136:236873

AB The present invention provides protonated compds. X-Y-Z (Y = O, P, C; X, Z = end blocking groups preventing degrdn. of the mol. and providing stability) having **antimicrobial** activity and a sanitizing compn. comprising a protonated compd. and a metal salt of a carboxylic acid. The protonated compds. and compns. provide efficacious **antimicrobial** activity against resistant strains of **bacteria** and opportunistic fungi. For example, the s.c. administration of compds. Nu-2, Nu-3, Nu-4, and Nu-5 (12 mg/mL) were effective in attenuating the incidence of infection of burn wounds in a mice model, a ribose deriv. Nu-4 being the most efficacious providing 100% survival.

IT **403717-05-5 403717-06-6 403717-07-7**
403717-08-8
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(protonated **antimicrobial** compds. and compns.)

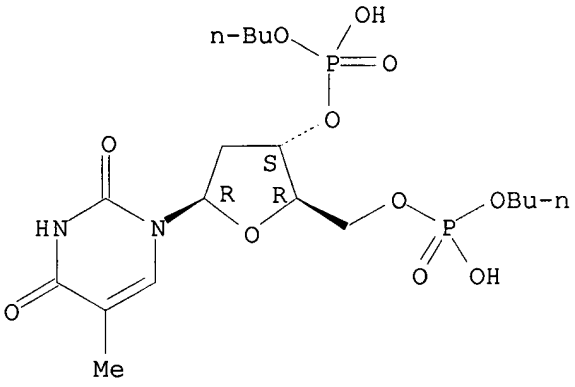
RN 403717-05-5 HCAPLUS
CN 3'-Uridylic acid, 2'-O-methyl-, mono(4-hydroxybutyl) ester, 5'-(4-hydroxybutyl hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



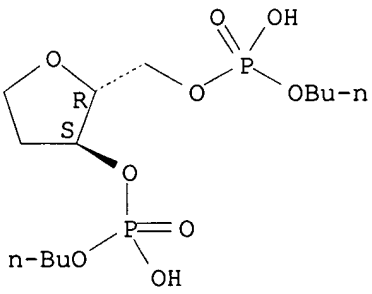
RN 403717-06-6 HCAPLUS
CN 3'-Thymidylic acid, monobutyl ester, 5'-(butyl hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

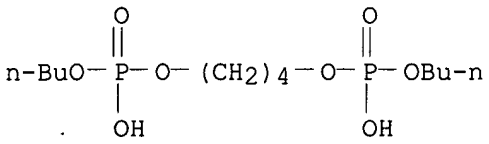


RN 403717-07-7 HCAPLUS
CN D-erythro-Pentitol, 1,4-anhydro-2-deoxy-, bis(butyl hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 403717-08-8 HCAPLUS
CN Phosphoric acid, P,P'-1,4-butanediyl P,P'-dibutyl ester (9CI) (CA INDEX NAME)



L11 ANSWER 4 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:241745 HCAPLUS
DOCUMENT NUMBER: 134:285582
TITLE: Pulmonary delivery of protonated/acidified nucleic acids
INVENTOR(S): Dale, Roderic M. K.; Gatton, Steven L.; Arrow, Amy
PATENT ASSIGNEE(S): Oligos Etc. Inc., USA
SOURCE: U.S., 15 pp., Cont.-in-part of U.S. Ser. No. 222,009.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6211162	B1	20010403	US 1999-282824	19990331
US 6211349	B1	20010403	US 1998-222009	19981230
WO 2000057890	A1	20001005	WO 2000-US8244	20000328
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1169046	A1	20020109	EP 2000-921487	20000328
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.:
US 1998-222009 A2 19981230
US 1999-282824 A 19990331
WO 2000-US8244 W 20000328

AB The present invention provides a method of treating **bacterial** respiratory infections by pulmonary administration of protonated/acidified nucleic acids. These modified nucleic acids are effective as **bactericidal** and/or **bacteriostatic** agents without regard to the class of **bacteria**, so are esp. useful when diagnosis is difficult or when multiple infectious organisms are present. The antibiotic activity of nucleic acids of the invention is not dependent on either the specific sequence of the nucleic acid or the length of the nucleic acid mol.

IT **331953-81-2**
RL: BAC (Biological activity or effector, except adverse); BSU

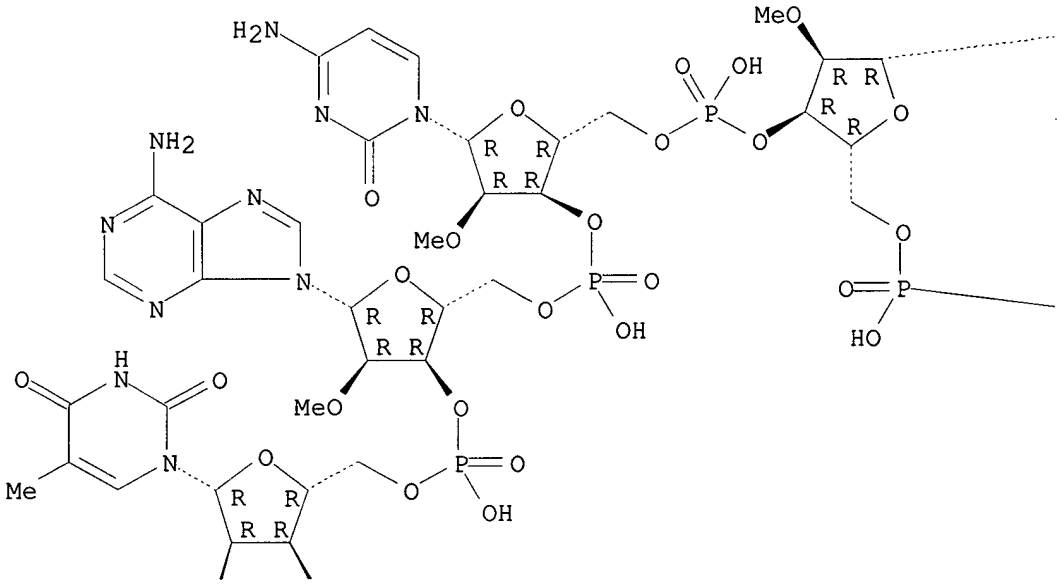
(Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pulmonary delivery of protonated/acidified nucleic acids for treatment of **bacterial** infections)

RN 331953-81-2 HCAPLUS

CN Uridine, 5-methyl-2'-O-methyluridylyl-(5'.fwdarw.5')-2'-O-methylcytidylyl-(3'.fwdarw.5')-2'-O-methylguanylyl-(3'.fwdarw.5')-2'-O-methylcytidylyl-(3'.fwdarw.5')-2'-O-methylcytidylyl-(3'.fwdarw.5')-2'-O-methyladenylyl-(3'.fwdarw.5')-5-methyl-2'-O-methyluridylyl-(3'.fwdarw.3')-5-methyl-2'-O-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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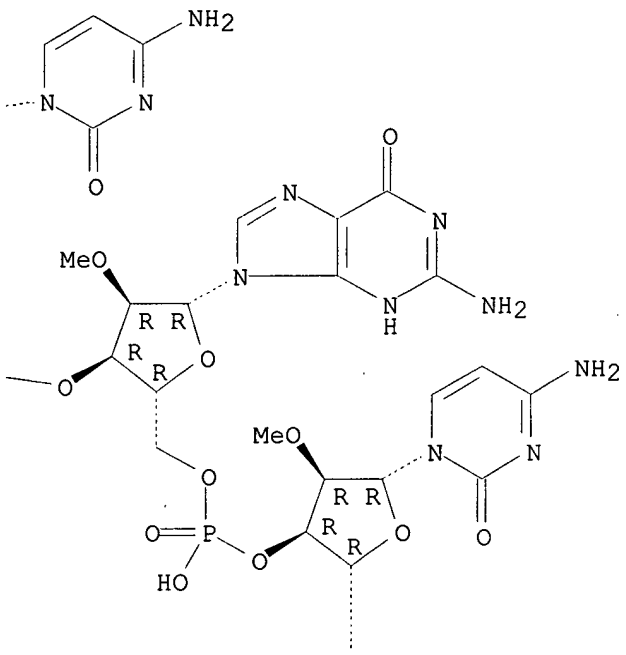

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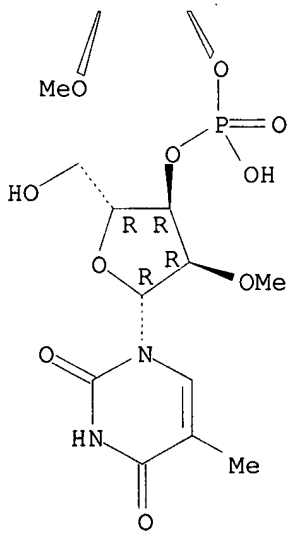
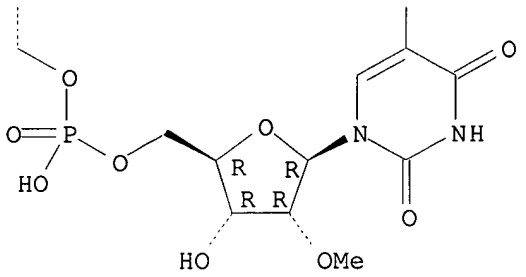
PAGE 2-A





REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 5 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:693716 HCAPLUS
DOCUMENT NUMBER: 130:52665
TITLE: Optimized automated solid-phase synthesis of oligonucleotides and derivatives
AUTHOR(S): Alvarado Urbina, Gabriel; Gruebler, Gerald; Weiler, Angelika; Echner, Hartmut; Stoeva, Stanka; Schernthaner, Johann; Gross, Waleri; Voelter, Wolfgang
CORPORATE SOURCE: Biochem. Molecular Group, Eppendorf-Netheler-Hinz G.m.b.H., Hamburg, D-22339, Germany
SOURCE: Zeitschrift fuer Naturforschung, B: Chemical Sciences (1998), 53(9), 1051-1068
CODEN: ZNBSEN; ISSN: 0932-0776
PUBLISHER: Verlag der Zeitschrift fuer Naturforschung
DOCUMENT TYPE: Journal
LANGUAGE: English

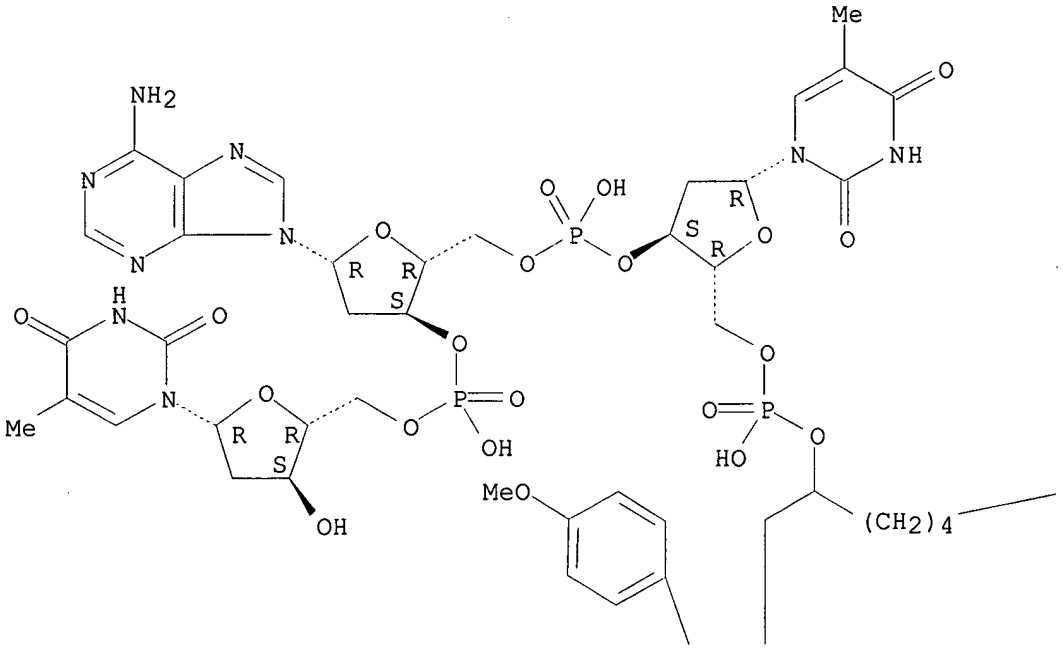
AB An optimized automated synthesizer is presented for assembling oligonucleotides, thiooligonucleotides, and 5'-modified oligonucleotides including chem. phosphorylation, multihydroxyl derivatization with a non-nucleosidic phosphoramidite. The incorporation of biotin, fluorescein, and rhodamine phosphoramidites is described. The purifn. and structure detn. of oligonucleotides was confirmed using HPLC, capillary electrophoresis, and laser desorption mass spectrometry. Several applications and confirming data will be presented for gene synthesis and polymerase chain reaction expts.

IT **216485-54-0P 216485-55-1P**
RL: ANT (Analyte); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(optimized automated solid-phase synthesis of oligonucleotides and derivs.)

RN 216485-54-0 HCAPLUS
CN Thymidine, 5'-O-[[[5-[bis(4-methoxyphenyl)phenylmethoxy]-1-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]pentyl]oxy]hydroxyphosphinyl]thymidylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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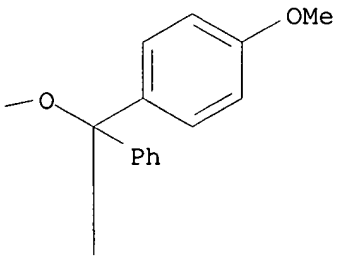

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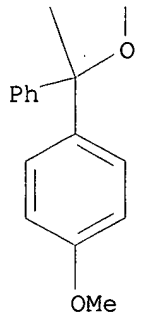

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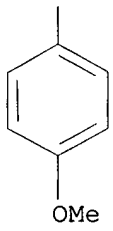
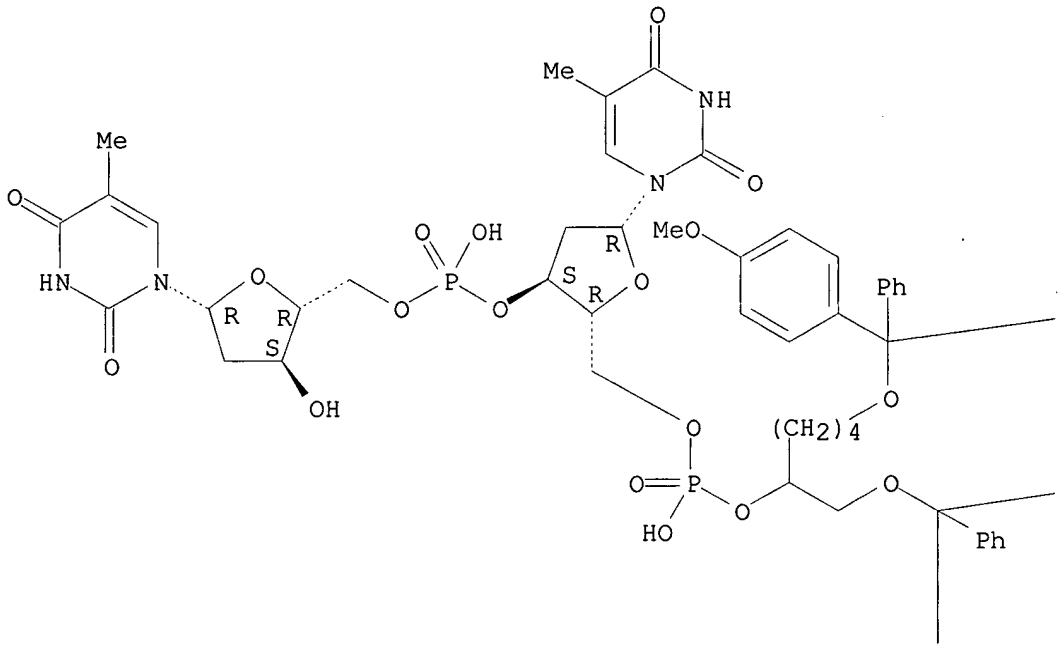


RN 216485-55-1 HCAPLUS
CN Thymidine, 5'-O-[[[5-[bis(4-methoxyphenyl)phenylmethoxy]-1-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]pentyl]oxy]hydroxyphosphinyl]thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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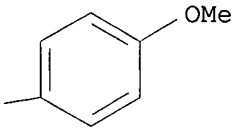

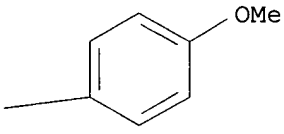

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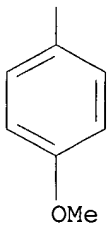
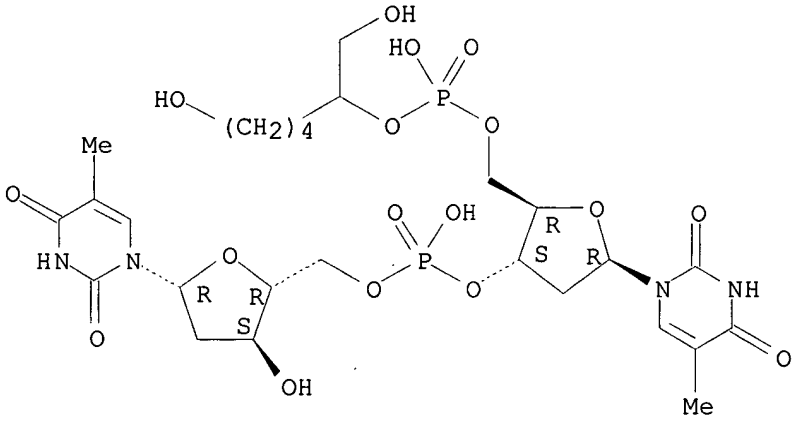


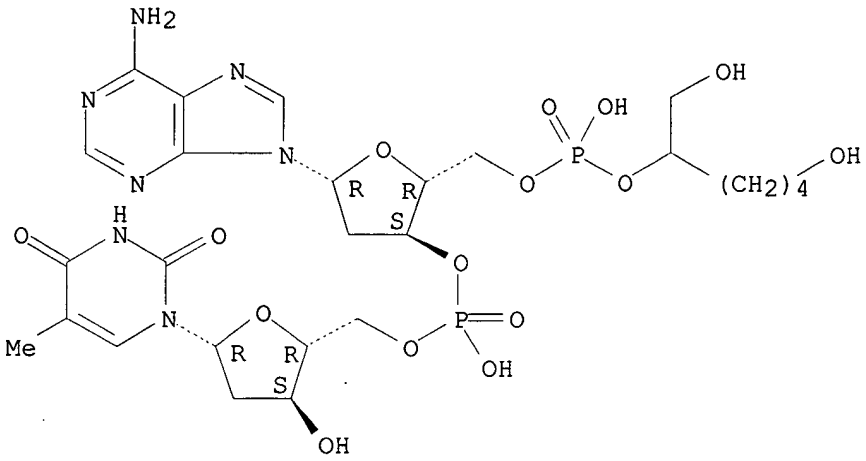
IT **167212-06-8P 216485-50-6P 216485-51-7P**
216485-52-8P 216485-53-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(optimized automated solid-phase synthesis of oligonucleotides and derivs.)
RN 167212-06-8 HCAPLUS
CN Thymidine, 5'-O-[hydroxy[[5-hydroxy-1-(hydroxymethyl)pentyl]oxy]phosphinyl]thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



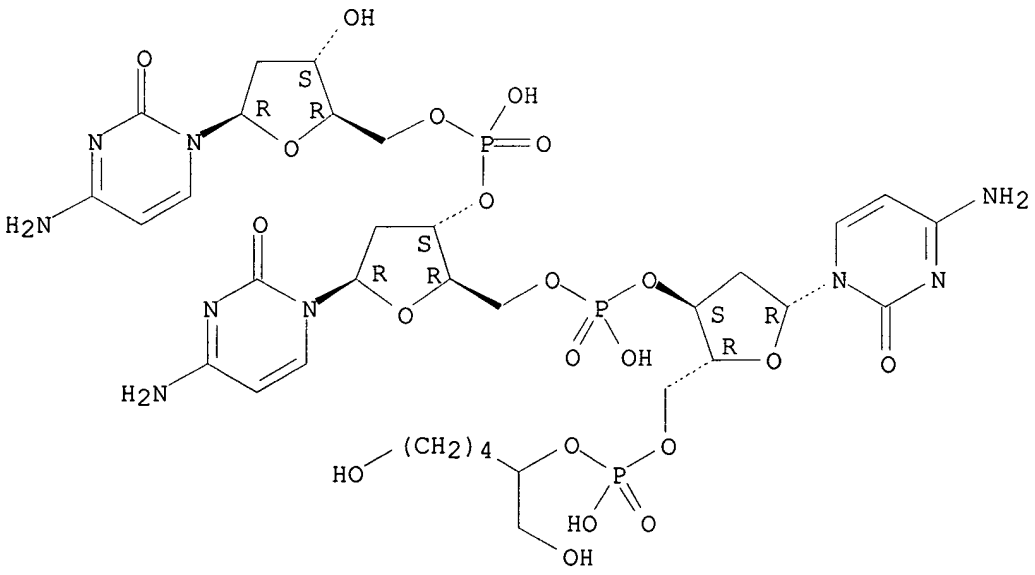
RN 216485-50-6 HCAPLUS
CN Thymidine, 2'-deoxy-5'-O-[hydroxy[[5-hydroxy-1-(hydroxymethyl)pentyl]oxy]phosphinyl]adenylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



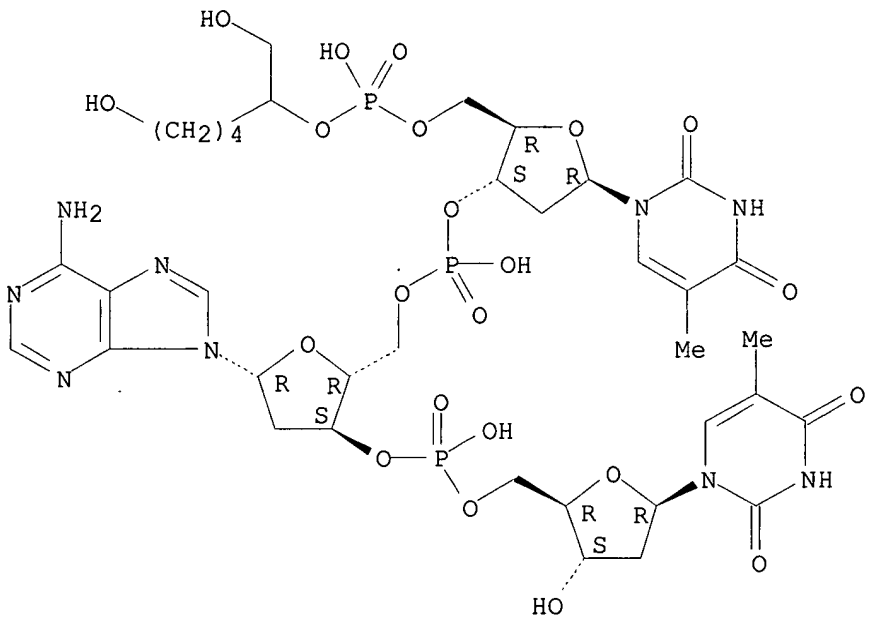
RN 216485-51-7 HCAPLUS
CN Cytidine, 2'-deoxy-5'-O-[hydroxy[[5-hydroxy-1-(hydroxymethyl)pentyl]oxy]phosphinyl]cytidylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



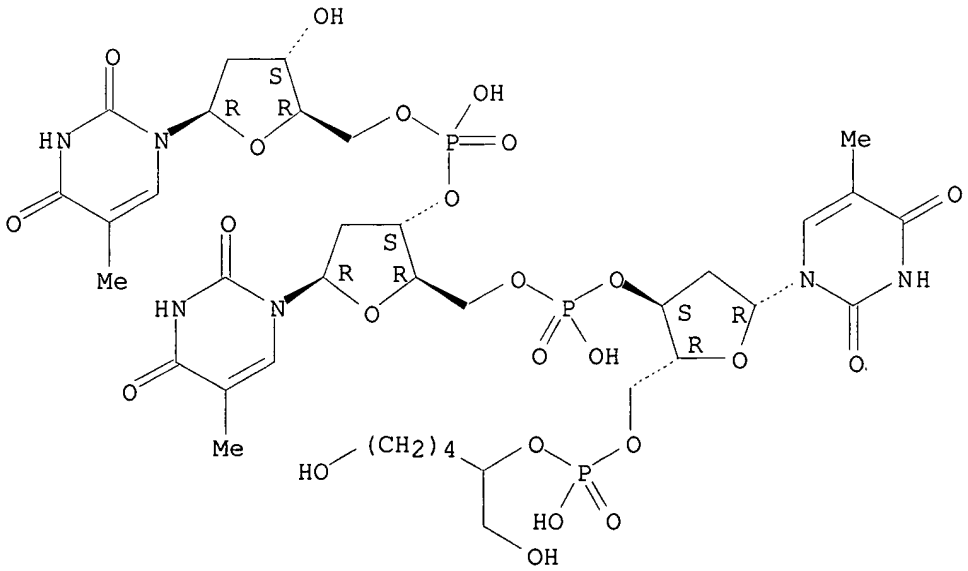
RN 216485-52-8 HCAPLUS
CN Thymidine, 5'-O-[hydroxy[[5-hydroxy-1-(hydroxymethyl)pentyl]oxy]phosphinyl]thymidylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 216485-53-9 HCAPLUS
CN Thymidine, 5'-O-[hydroxy[[5-hydroxy-1-(hydroxymethyl)pentyl]oxy]phosphinyl]thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Searcher : Shears 308-4994

L11 ANSWER 6 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:26983 HCAPLUS
DOCUMENT NUMBER: 126:114175
TITLE: Targeted cleavage of RNA using antisense oligonucleotide linked to 2',5'-oligoadenylate activator of RNase
INVENTOR(S): Torrence, Paul; Silverman, Robert; Maitra, Ratan; Lesiak, Krystyna
PATENT ASSIGNEE(S): Cleveland Clinic Foundation and National Institutes of Health, USA
SOURCE: U.S., 43 pp., Cont.-in-part of U.S. Ser. No. 965,666, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5583032	A	19961210	US 1993-123449	19930917
US 965666	A0	19930401	US 1992-965666	19921021
CA 2147282	AA	19940428	CA 1993-2147282	19931020
WO 9409129	A2	19940428	WO 1993-US10103	19931020
WO 9409129	A3	19940526		
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9455858	A1	19940509	AU 1994-55858	19931020
AU 669250	B2	19960530		
EP 666910	A1	19950816	EP 1994-901178	19931020
EP 666910	B1	20020130		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08502408	T2	19960319	JP 1993-510391	19931020
AT 212664	E	20020215	AT 1994-901178	19931020
US 5677289	A	19971014	US 1995-458050	19950601
US 6271369	B1	20010807	US 1997-950196	19971014

PRIORITY APPLN. INFO.:
US 1992-965666 B2 19921021
US 1993-123449 A 19930917
WO 1993-US10103 W 19931020
US 1995-458050 A3 19950601

AB A method of using a chimeric mol. made up of an antisense oligonucleotide attached to a 2',5'-oligoadenylate mol. to specifically cleave a sense strand of RNA, wherein the antisense oligonucleotide of the chimeric mol. is hybridized to the sense strand of RNA in the presence of 2',5'-dependent RNase is claimed. Chimeric 2',5'-oligoA-antisense oligonucleotides were synthesized and tested in vitro and in vivo. The chimeric mol. caused sequence-specific cleavage. The 2',5'-oligoA moiety enhanced the ability of antisense oligonucleotides to inhibit specific gene expression. When administered to mammalian cells, destruction of specific RNA mols. occurred without having to treat the cells in any special way in order to get the chimeric mols. into the cell.

IT **185997-79-9P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

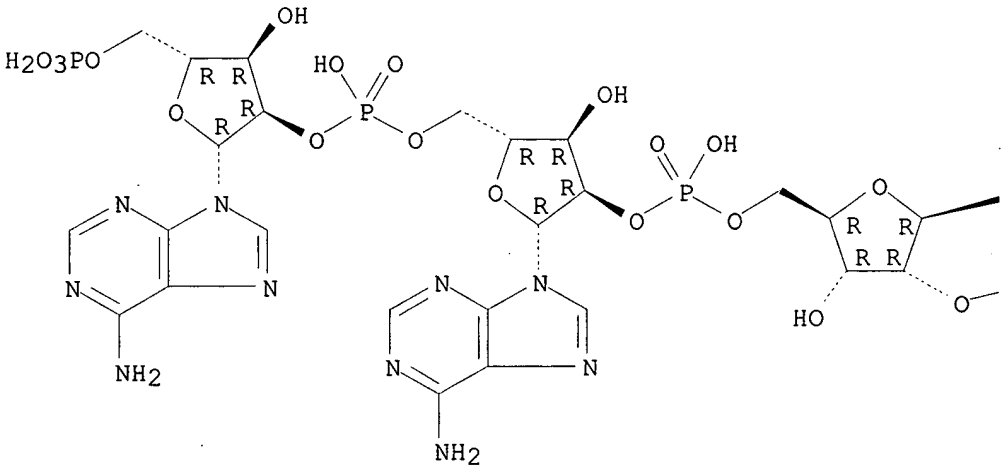
(targeted cleavage of RNA using antisense oligonucleotide linked to 2',5'-oligoadenylate activator of RNase)

RN 185997-79-9 HCAPLUS

CN Thymidine, 5'-O-phosphonoadenylyl-(2'.fwdarw.5')-adenylyl-(2'.fwdarw.5')-adenylyl-(2'.fwdarw.5')-adenylyloxyphosphinicooxy-1,4-butanediyloxyphosphinicooxy-1,4-butanediyloxyphosphinico-(2'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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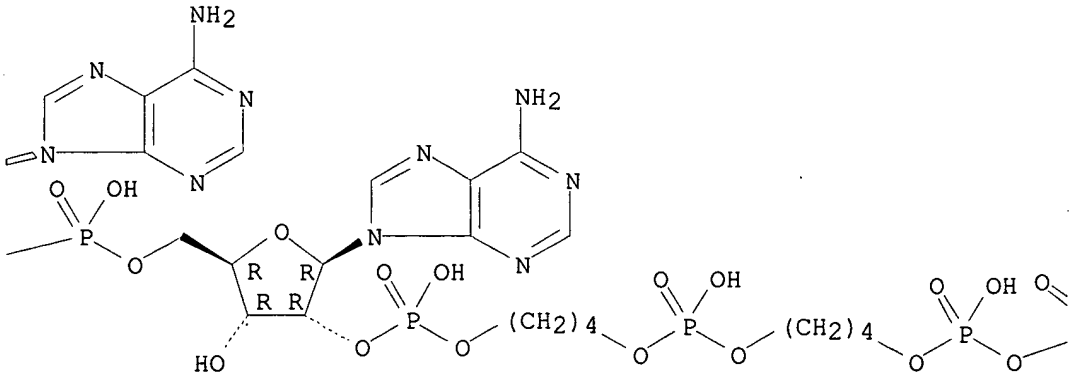

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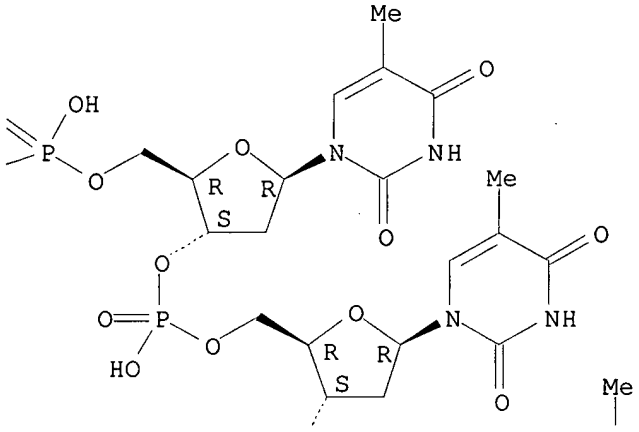

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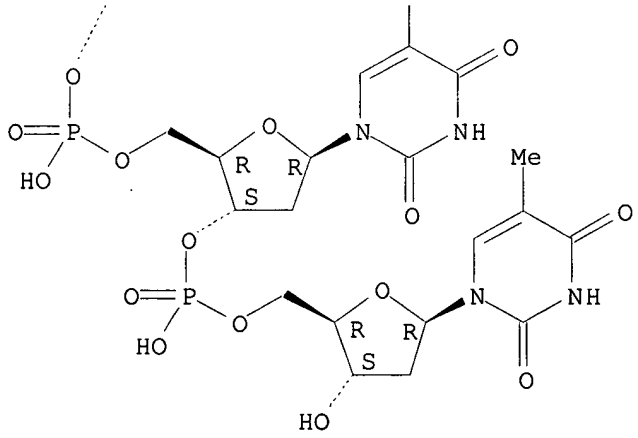


L11 ANSWER 7 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:487020 HCAPLUS
DOCUMENT NUMBER: 125:214989
TITLE: Conjugates of minor groove DNA binders with oligodeoxynucleotides: synthesis and properties
AUTHOR(S): Levina, Asya S.; Metelev, Valeri G.; Cohen, Aharon S.; Zamecnik, Paul C.
CORPORATE SOURCE: Worcester Foundation Biomed. Res., Shrewsbury,

MA, 01545-2737, USA
SOURCE: Antisense & Nucleic Acid Drug Development (1996), 6(2), 75-85
CODEN: ANADF5; ISSN: 1087-2906
PUBLISHER: Liebert
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Oligodeoxynucleotide conjugates of netropsin (Nt) and distamycin A (Dst) were synthesized, and the thermal stability of several model DNA duplexes contg. conjugates was studied. Two Dst residues conjugated at both ends of the oligodeoxynucleotide were needed for substantial increase in the melting temp. of the corresponding duplex (.DELTA.Tm > 30.degree.). Two attached Dst residues had a greater effect on the Tm value than did two free mols. of Dst per duplex. In contrast to Dst, one Nt mol. linked to the oligonucleotide was enough to influence the thermal stability of the duplexes. Like Dst, the attached Nt appeared to stabilize duplexes much more than free Nt mols. Attachment of Nt to either the 5'- or 3'-end of the different nonadeoxynucleotides contg. 5'...TTAAA... or 5'... TATA sites increased Tm of their duplexes by 21.degree.-25.degree., whereas .DELTA.Tm for free Nt was 8.degree.-15.degree. (.DELTA..DELTA.Tm = 10.degree.-14.degree.). The same phenomenon was shown for oligonucleotide phosphorothioates (.DELTA.Tm were 18.degree.-22.degree. and 9.degree.-13.degree. for attached and free Nt, resp.; .DELTA..DELTA.Tm = 9.degree.). This effect was even more pronounced for a hairpin oligonucleotide (.DELTA..DELTA.Tm = 18.degree.).

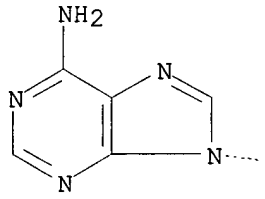
IT **180840-08-8**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(synthesis and properties of conjugates of minor groove DNA binders distamycin and netropsin with oligodeoxynucleotides)

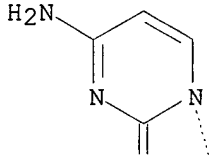
RN 180840-08-8 HCAPLUS

CN 3'-Cytidylic acid, 2'-deoxy-5'-O-(1,21,21-trihydroxy-1,21-dioxido-2,5,8,11,14,17,20-heptaoxa-1,21-diphosphaheneicos-1-yl)cytidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-2'-deoxy-, 3'-(19,19-dihydroxy-19-oxido-3,6,9,12,15,18-hexaoxa-19-phosphanonadec-1-yl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





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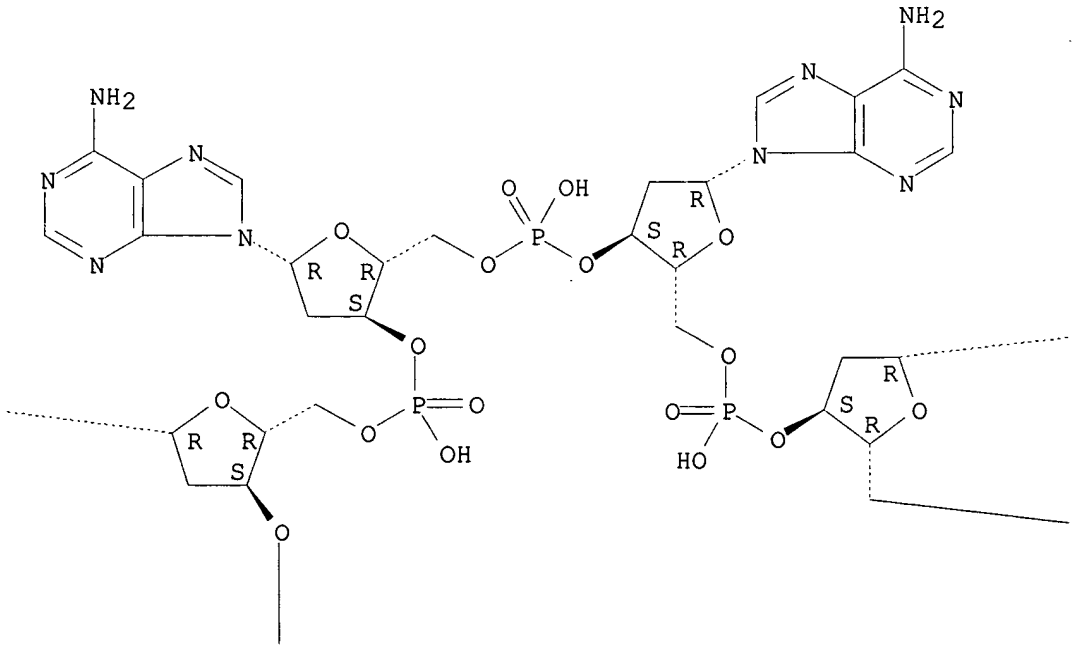

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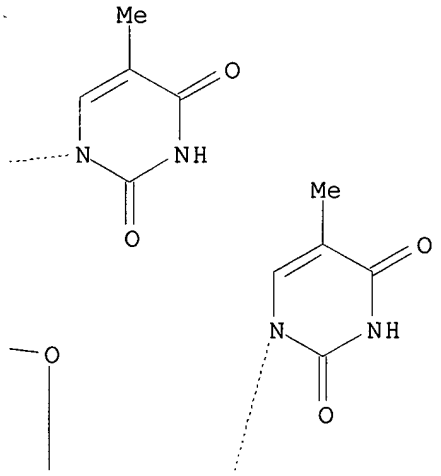

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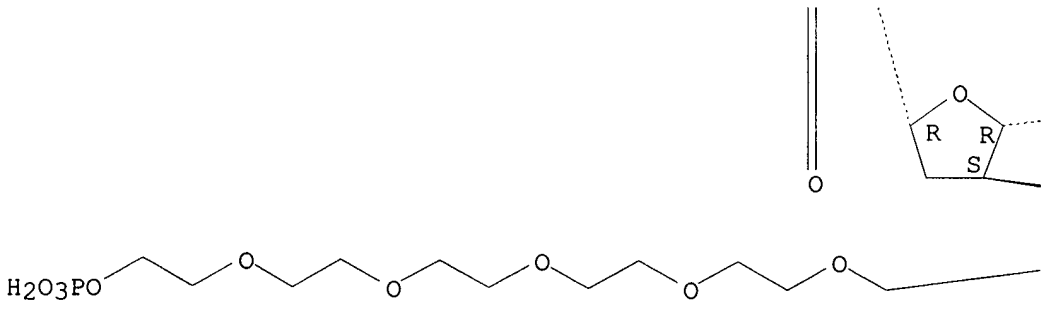

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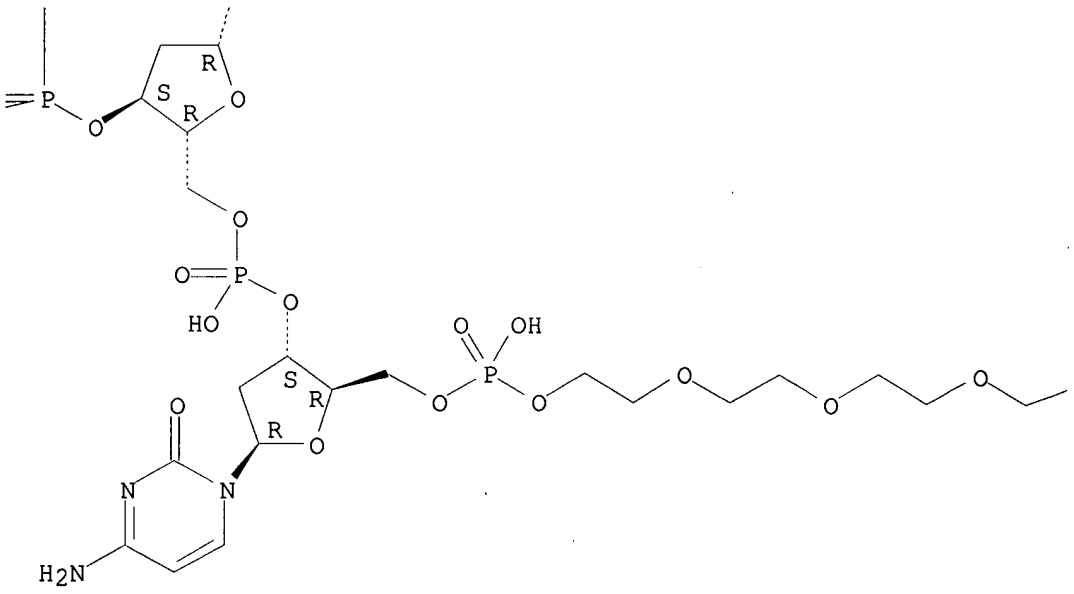
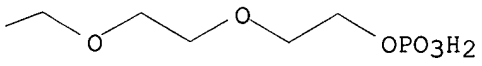
PAGE 2-C





L11 ANSWER 8 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:286949 HCAPLUS
DOCUMENT NUMBER: 124:334809
TITLE: Stable triple helixes formed by oligonucleotide N3' .fwdarw. P5' phosphoramidates inhibit transcription elongation
AUTHOR(S): Escude, Christophe; Giovannangeli, Carine; Sun, Jian-Sheng; Lloyd, David H.; Chen, Jer-Kang; Gryaznov, Sergei M.; Garestier, Therese; Helene, Claude
CORPORATE SOURCE: Lab. Biophys., Cent. Natl. Rech. Sci., Paris, 75231, Fr.
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1996), 93(9), 4365-4369
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Oligonucleotide analogs with N3' .fwdarw. P5' phosphoramidate linkages bind to the major groove of double-helical DNA at specific oligopurine-oligopyrimidine sequences. These triple-helical complexes are much more stable than those formed by oligonucleotides with natural phosphodiester linkages. Oligonucleotide phosphoramidates contg. thymine and cytosine or thymine, cytosine, and guanine bind strongly to the polypurine tract of human immunodeficiency virus proviral DNA under physiol. conditions. Site-specific cleavage by the Dra I restriction enzyme at the 5' end of the polypurine sequence was inhibited by triplex formation. A eukaryotic transcription assay was used to investigate the effect of oligophosphoramidate binding to the polypurine tract sequence on transcription of the type 1 human immunodeficiency virus nef gene under the control of a cytomegalovirus promoter. An efficient arrest of RNA polymerase II was obsd. at the specific triplex site at submicromolar concns.

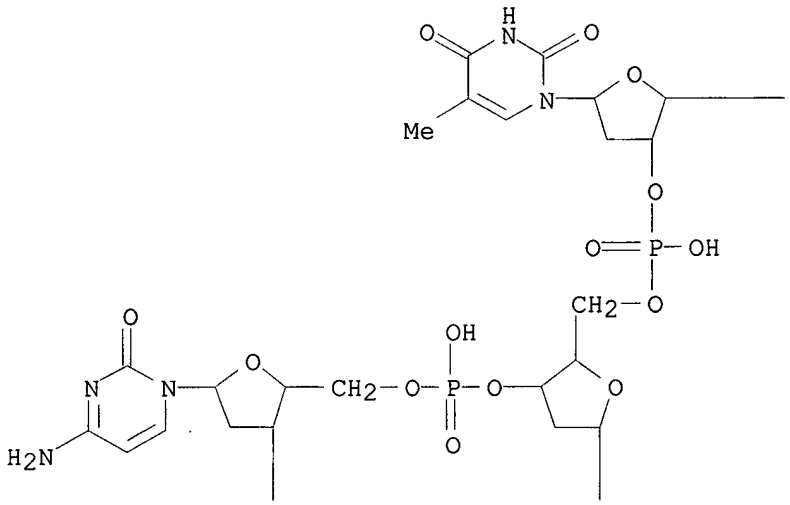
IT **119874-42-9**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological

study)
(Acr-d(T-T-T-C-C-T-C-C-T-C-T); stable triple helixes formed by oligonucleotide N3' .fwdarw. P5' phosphoramidates inhibit transcription elongation)

RN 119874-42-9 HCAPLUS

CN 5'-Thymidylic acid, thymidylyl-(5'.fwdarw.3')-2'-deoxycytidylyl-(5'.fwdarw.3')-thymidylyl-(5'.fwdarw.3')-2'-deoxycytidylyl-(5'.fwdarw.3')-2'-deoxycytidylyl-(5'.fwdarw.3')-thymidylyl-(5'.fwdarw.3')-2'-deoxycytidylyl-(5'.fwdarw.3')-2'-deoxycytidylyl-(5'.fwdarw.3')-thymidylyl-(5'.fwdarw.3')-thymidylyl-(5'.fwdarw.3')-, 5'-[5-[(6-chloro-2-methoxy-9-acridinyl)amino]pentyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



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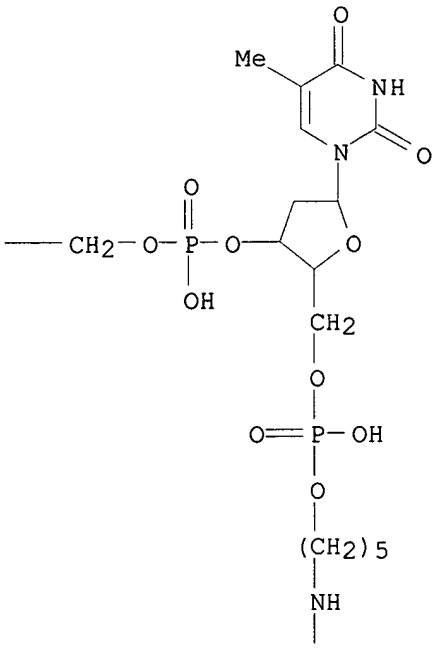
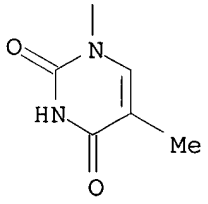
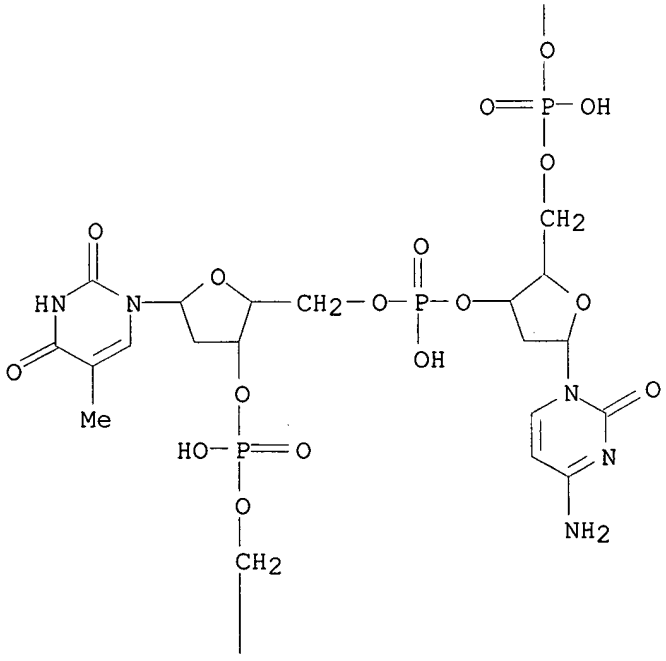
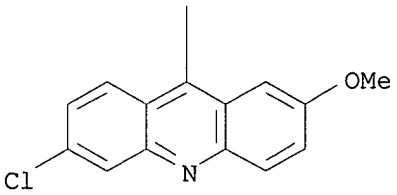


PAGE 2-A

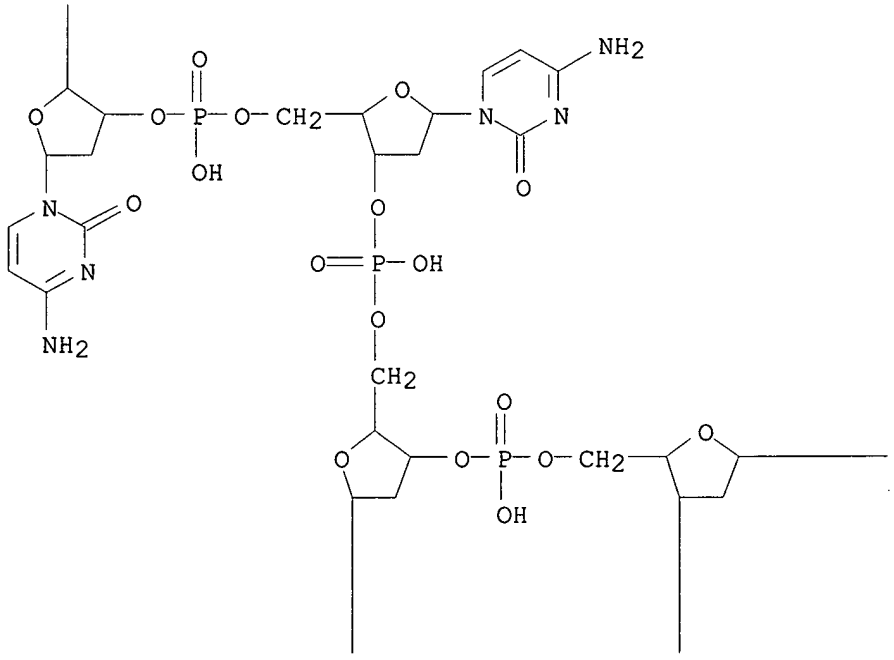




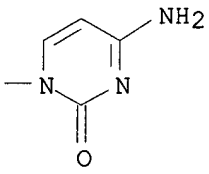
PAGE 2-B



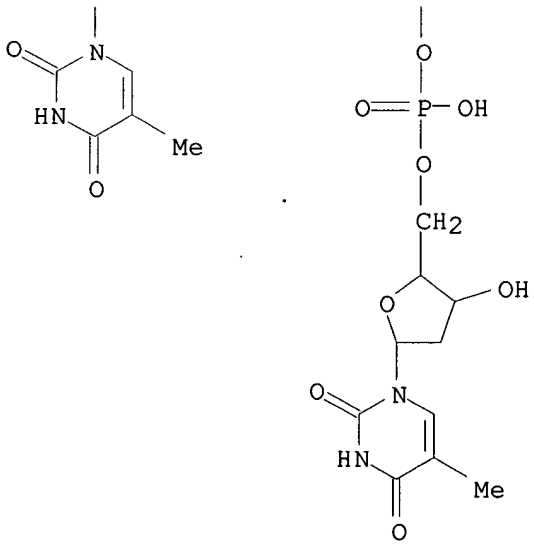
PAGE 3-A



PAGE 3-B



PAGE 4-A



L11 ANSWER 9 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:767385 HCAPLUS
DOCUMENT NUMBER: 123:286546
TITLE: Synthesis of nucleic acid probes for sensing a DNA and RNA molecules
INVENTOR(S): De Vos, Marie-Joelle; Bollen, Alex
PATENT ASSIGNEE(S): La Region Wallonne, Belg.
SOURCE: PCT Int. Appl., 97 pp.
CODEN: PIXXD2

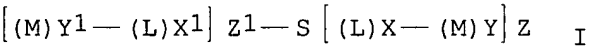
Searcher : Shears 308-4994

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9419364	A2	19940901	WO 1994-BE13	19940218
WO 9419364	A3	19941013		
W: CA, FI, JP, NO, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
BE 1007918	A3	19951121	BE 1993-160	19930219
CA 2155757	AA	19940901	CA 1994-2155757	19940218
EP 684954	A1	19951206	EP 1994-906099	19940218
EP 684954	B1	19980722		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL				
JP 08511678	T2	19961210	JP 1994-518492	19940218
AT 168696	E	19980815	AT 1994-906099	19940218
ES 2122233	T3	19981216	ES 1994-906099	19940218
NO 9503251	A	19950818	NO 1995-3251	19950818
FI 9503897	A	19951002	FI 1995-3897	19950818
US 5969128	A	19991019	US 1995-507283	19950821

PRIORITY APPLN. INFO.: BE 1993-160 19930219
WO 1994-BE13 19940218

OTHER SOURCE(S): MARPAT 123:286546
GI



I

AB Nucleic acid probes for sensing a DNA or RNA mol. The probe I comprises (a) an oligodeoxyribonucleotide or oligodeoxyribonucleotide portion consisting of a DNA or RNA nucleic acid sequence (S) depending of the kind of mol. to be sensed, and (b) a non-nucleotide portion having chem. properties enabling the direct or indirect attachment of one or more detection units or biotin labeling elements (M) that are non-isotopically detectable by oligodeoxyribonucleotide. of color or light, and chem. arm (L), with x, x1, z, z1 are > or equal to zero, y and y1 are never both equal to zero. The probe is characterized in that portion (b) consists of a chain of phosphate units between which are inserted alkyl units, i.e. (b1) a no. of alkyl units joining the various phosphate groups and having no particular functionality, and (b2) alkyl units having primary amine functions enabling coupling to various reagents and thus direct or indirect detection, units (b2) being bound to portion (a) or sequence (S) via units (b1). Sequence (S) is linked at its 5' and/or 3' end ot one or more labeling elements (M). Such probes are useful for sensing and diagnosing hereditary genetic diseases, oncogenes, and viral, **bacterial** or parasitic diseases.

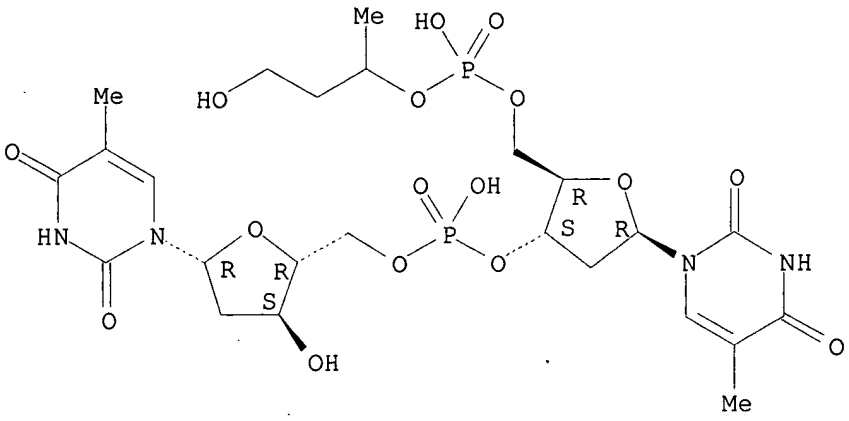
IT **166887-51-0P 166887-52-1P 166887-53-2P**
167211-99-6P 167212-03-5P 167212-04-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of biotin labeled nucleic acid probes for sensing a DNA

and RNA mols.)

RN 166887-51-0 HCAPLUS

CN Thymidine, 5'-O-[hydroxy(3-hydroxy-1-methylpropoxy)phosphinyl]thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

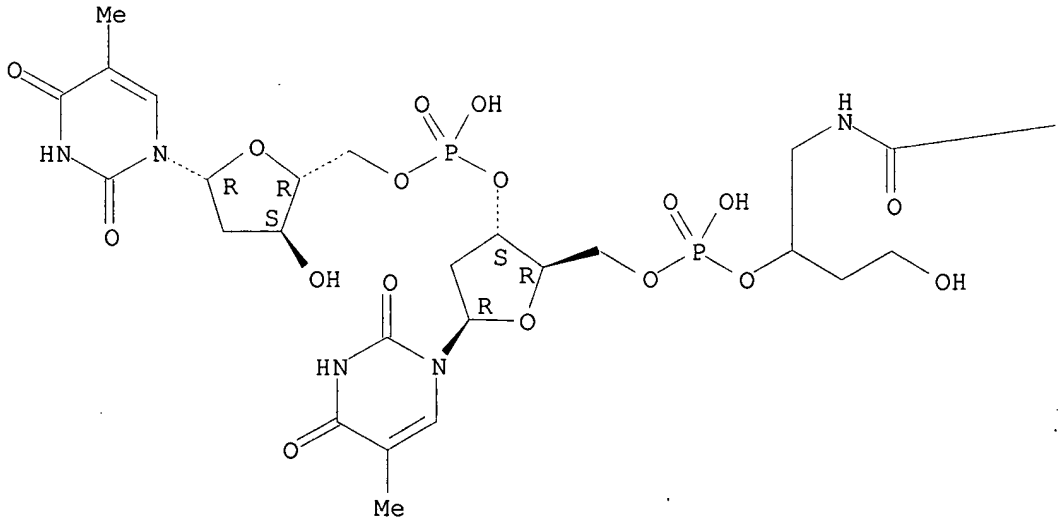
Absolute stereochemistry.



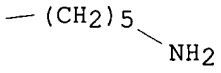
RN 166887-52-1 HCAPLUS

CN Thymidine, 5'-O-[[1-[[(6-amino-1-oxohexyl)amino]methyl]-3-hydroxypropoxy]hydroxyphosphinyl]thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



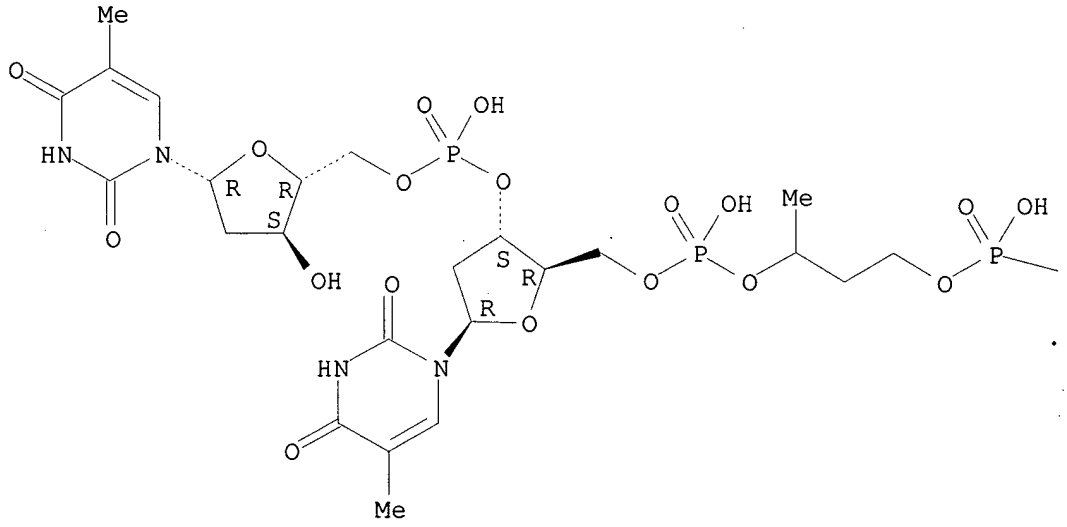
PAGE 1-B



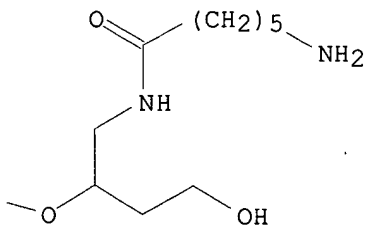
RN 166887-53-2 HCAPLUS
CN Thymidine, 5'-O-[[[15-amino-5-hydroxy-7-(2-hydroxyethyl)-1-methyl-5-oxido-10-oxo-4,6-dioxa-9-aza-5-phosphapentadec-1-yl]oxy]hydroxyphosphinyl]thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



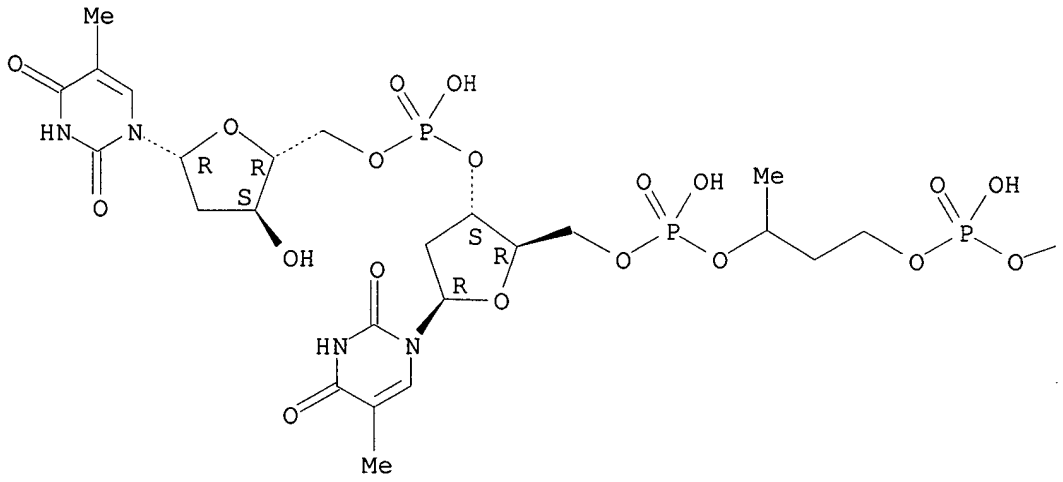
PAGE 1-B



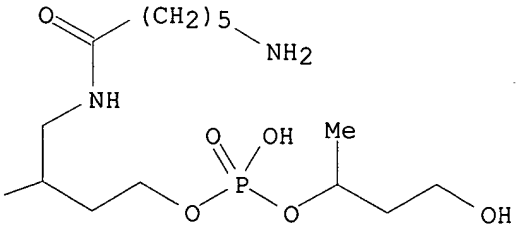
RN 167211-99-6 HCAPLUS
CN Thymidine, 5'-O-[[[7-[[(6-amino-1-oxohexyl)amino]methyl]-5,11,15-trihydroxy-1,13-dimethyl-5,11-dioxido-4,6,10,12-tetraoxa-5,11-diphosphapentadec-1-yl]oxy]hydroxyphosphinyl]thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



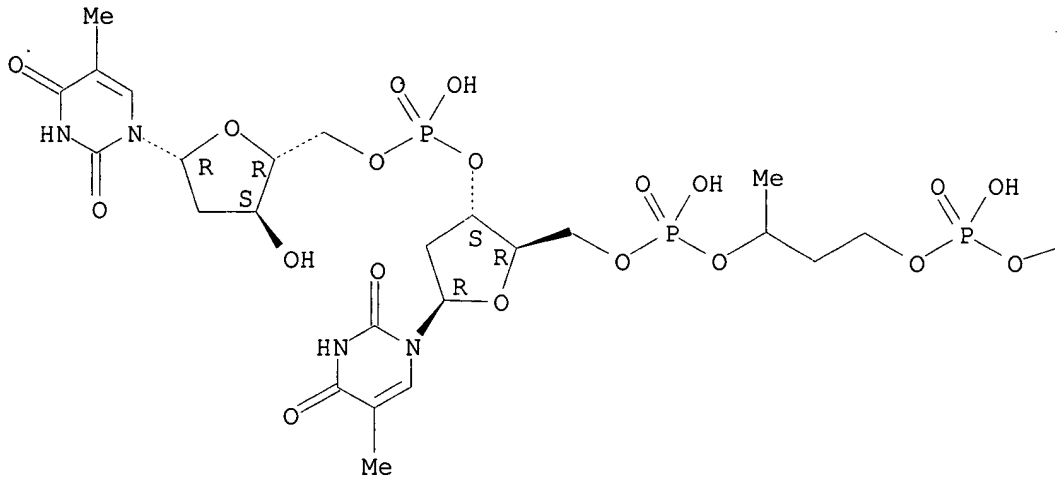
PAGE 1-B



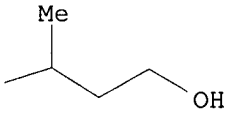
RN 167212-03-5 HCAPLUS
CN Thymidine, 5'-O-[hydroxy[3-[[hydroxy(3-hydroxy-1-methylpropoxy)phosphinyl]oxy]-1-methylpropoxy]phosphinyl]thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



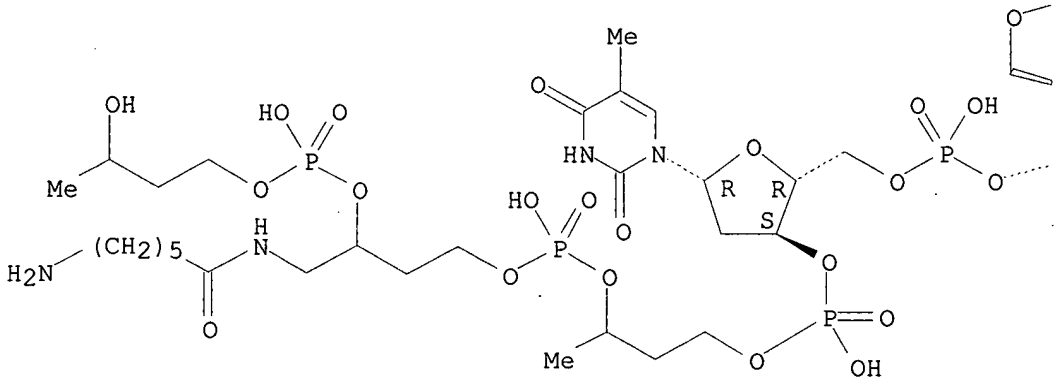
PAGE 1-B



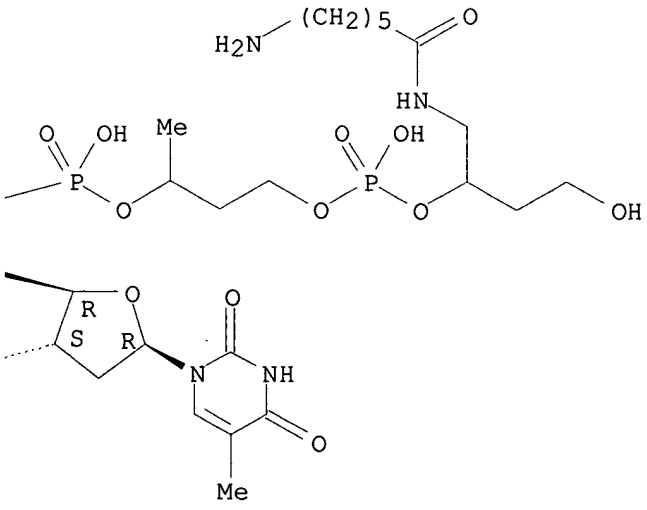
RN 167212-04-6 HCAPLUS
CN 3'-Thymidylic acid, 5'-O-[[3-[[[1-[[(6-amino-1-oxohexyl)amino]methyl]-3-hydroxypropoxy]hydroxyphosphinyl]oxy]-1-methylpropoxy]hydroxyphosphinyl]thymidylyl-(3'.fwdarw.5')-, 3'-[3-[[[4-[(6-amino-1-oxohexyl)amino]-3-[[hydroxy(3-hydroxybutoxy)phosphinyl]oxy]butoxy]hydroxyphosphinyl]oxy]butyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



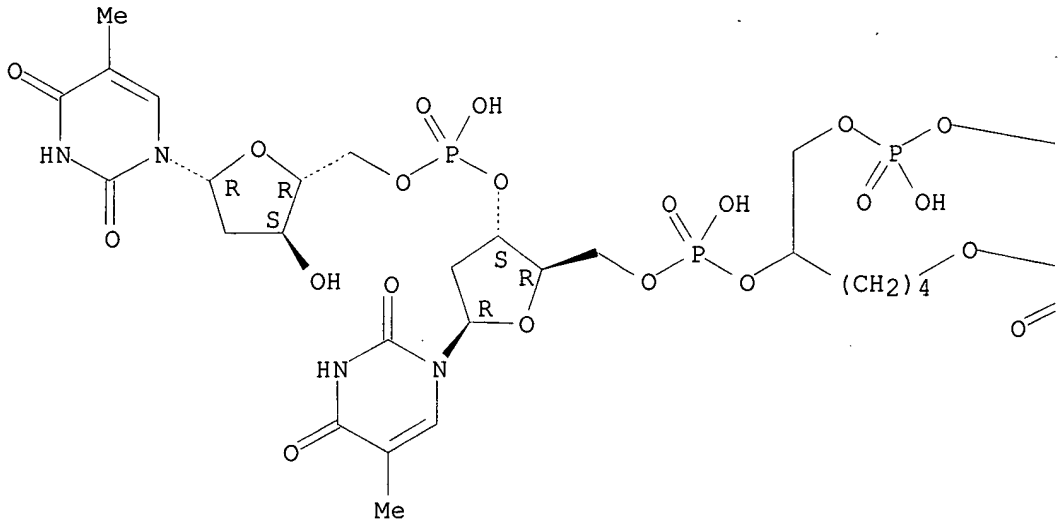
IT **166887-47-4P 167212-06-8P 167212-07-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of biotin labeled nucleic acid probes for sensing a DNA and RNA mols.)

RN 166887-47-4 HCAPLUS

CN Thymidine, 5'-O-[[[5-[[[(6-aminohexyl)oxy]hydroxyphosphinyl]oxy]-1-[[[[(6-aminohexyl)oxy]hydroxyphosphinyl]oxy]methyl]pentyl]oxy]hydroxyphosphinyl]thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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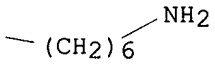
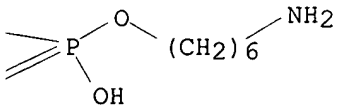
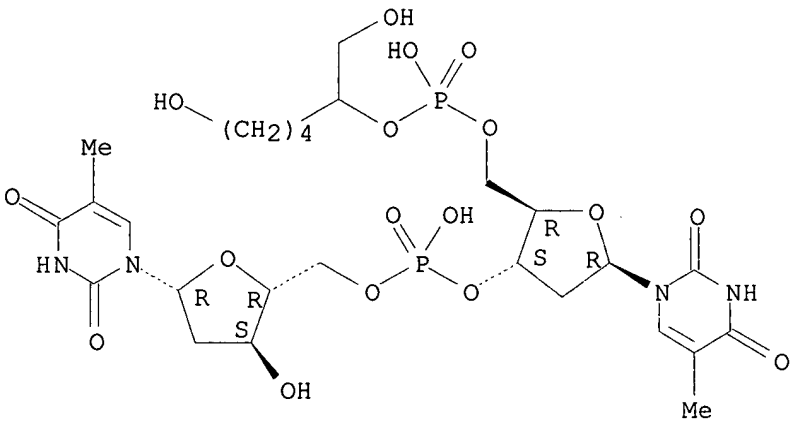




RN 167212-06-8 HCAPLUS
CN Thymidine, 5'-O-[hydroxy[[5-hydroxy-1-(hydroxymethyl)pentyl]oxy]phosphinyl]thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

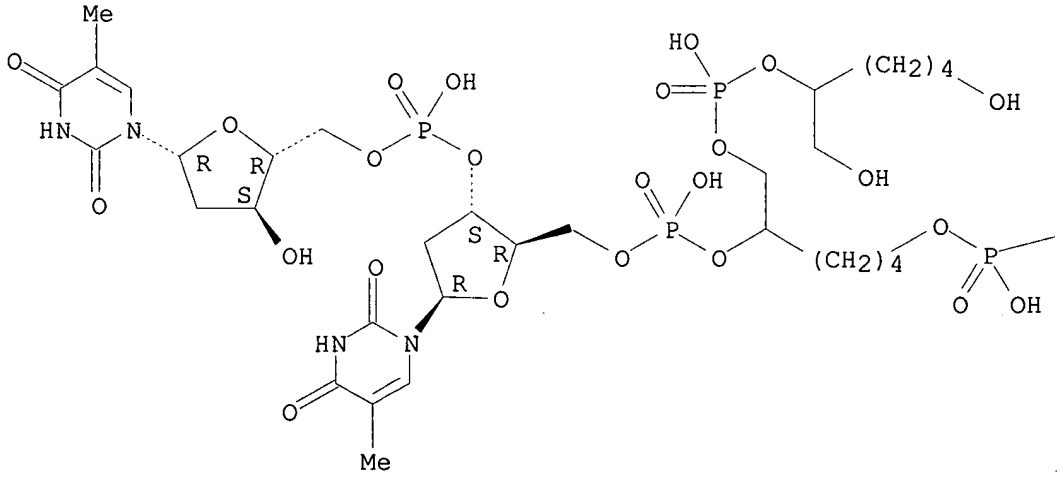
Absolute stereochemistry.

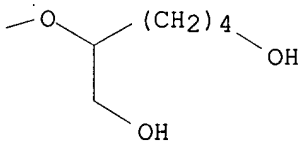


RN 167212-07-9 HCAPLUS
CN Thymidine, 5'-O-[hydroxy[[5-[[hydroxy[[5-hydroxy-1-(hydroxymethyl)pentyl]oxy]phosphinyl]oxy]-1-[[[hydroxy[[5-hydroxy-1-(hydroxymethyl)pentyl]oxy]phosphinyl]oxy]methyl]pentyl]oxy]phosphinyl]thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





L11 ANSWER 10 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:46745 HCAPLUS
DOCUMENT NUMBER: 122:127234
TITLE: A novel fluorogenic substrate for ribonucleases. Synthesis and enzymic characterization
AUTHOR(S): Zelenko, Ottilie; Neumann, Ulf; Brill, Wolfgang; Pieles, Uwe; Moser, Heinz E.; Hofsteenge, Jan
CORPORATE SOURCE: Friedrich Miescher-Institut, Basel, CH-4002, Switz.
SOURCE: Nucleic Acids Research (1994), 22(14), 2731-9
CODEN: NARHAD; ISSN: 0305-1048
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The synthesis and enzymic characterization of 5'-O-[4-(2,4-dinitrophenylamino)butyl]phosphoryluridylyl-(3'.fwdarw.5')-2'-deoxyadenosine-3'-[N-[(2-aminobenzoyl)aminoprop-3-yl]phosphate] (DUPAAA), a novel fluorogenic substrate for pancreatic-type RNases is described. It consists of the dinucleotide, uridylyl-3',5'-deoxyadenosine, to which a fluorophore, o-aminobenzoic acid, and a quencher, 2,4-dinitroaniline, have been attached by means of phosphodiester linkages. Due to intramol. quenching, the intact substrate displayed very little fluorescence. Cleavage of the phosphodiester bond at the 3'-side of the uridylyl residue by RNase caused a 60-fold increase in fluorescence. This allowed the continuous and highly sensitive monitoring of enzyme activity. The substrate was turned over efficiently by RNases of the pancreatic type, but no cleavage was obsd. with **microbial** RNase T1. Compared to the dinucleotide substrate, UpA, the specificity const. with RNase A, RNase PL3, and RNase Us increased 6-, 18-, and 29-fold, resp. These differences in increased catalytic efficiency most likely reflect differences in the importance of subsites on the enzyme in the binding of elongated substrates. Studies on the interactions of RNase inhibitor with RNase A using DUPAAA as a reporter substrate showed that it was well suited for monitoring this very tight protein-protein interaction using pre-steady-state kinetic methods.

IT **161054-62-2P**
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)

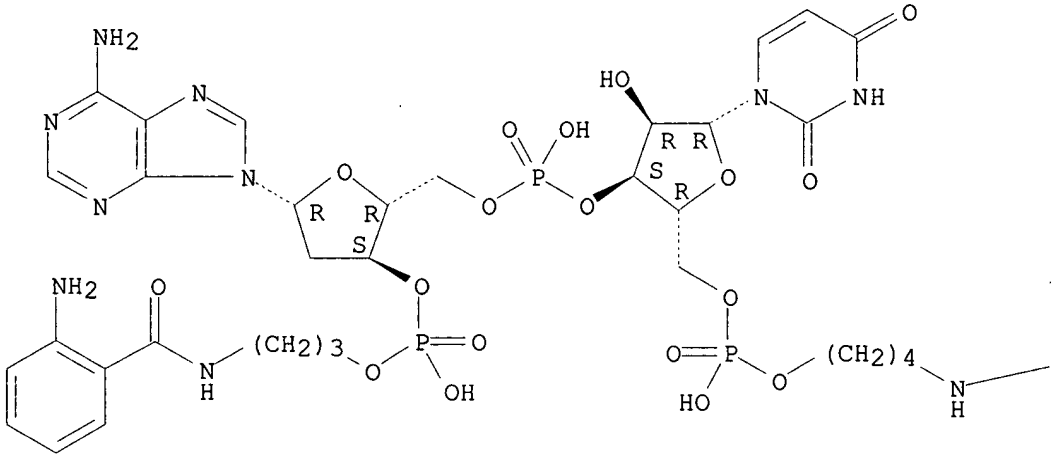
(synthesis and enzymic characterization of novel fluorogenic substrate for RNases)

RN 161054-62-2 HCAPLUS

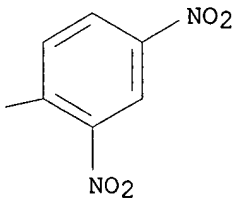
CN 3'-Adenylic acid, 5'-O-[[4-[(2,4-dinitrophenyl)amino]butoxy]hydroxyphosphinyl]uridylyl-(3'.fwdarw.5')-2'-deoxy-, 3'-[3-[(2-aminobenzoyl)amino]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



L11 ANSWER 11 OF 20 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1994:98485 HCAPLUS

DOCUMENT NUMBER: 120:98485

TITLE: Improvements in or relating to DNA cloning techniques and products for use therewith

INVENTOR(S): Taylor, Philip Neil
PATENT ASSIGNEE(S): University of Hull, UK
SOURCE: PCT Int. Appl., 46 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9319186	A1	19930930	WO 1993-GB584	19930322
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 631625	A1	19950104	EP 1993-906721	19930322
R: CH, DE, FR, GB, IT, LI				
US 5604122	A	19970218	US 1994-307713	19941114
PRIORITY APPLN. INFO.:			GB 1992-6210	19920321
			WO 1993-GB584	19930322

AB A method of cloning a foreign DNA into a DNA vector is described. The method comprises ligating (1) a DNA vector having a single-standed (ss) DNA overhang at each end, said overhangs being mutually incompatible so as to prevent self-religation; with (2) a linear piece of foreign DNA having a ss-DNA overhang at each end, each foreign DNA overhang being complementary to but at least 1 base shorter than each of the vector overhangs and being capable of base-pairing along the entire length of the overhang with 1 of the vector overhangs; followed by sealing the gap by either transforming the double-stranded DNA having a gap therein into a **bacterium** or transfering it into a **bacterium** after packaging into a **bacteriophage**. A DNA cloning kit comprising a defined DNA vector, DNA linkers, a restriction endonuclease, and a DNA ligase is also claimed.

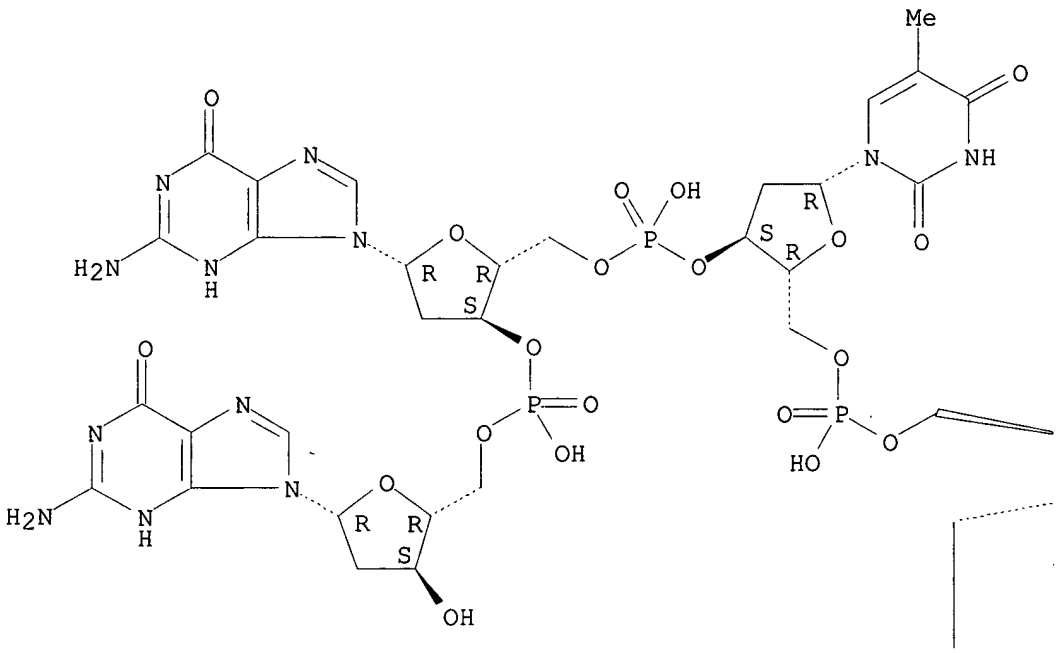
IT **151837-15-9**
RL: BIOL (Biological study)
(linker, cloning vector contg.)

RN 151837-15-9 HCAPLUS

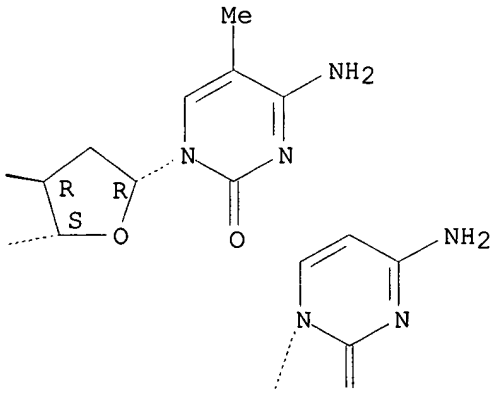
CN Guanosine, 2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-3'-de(phosphinicooxy)-5-methylcytidylylmethyleneoxyphosphinico-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxyguanylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

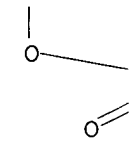
PAGE 1-A



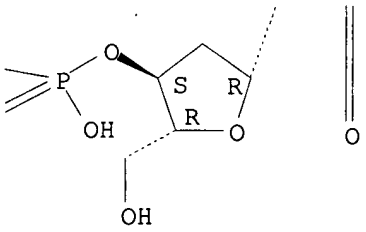
PAGE 1-B



PAGE 2-A



PAGE 2-B



L11 ANSWER 12 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:58069 HCAPLUS
DOCUMENT NUMBER: 114:58069
TITLE: Highly selective affinity labeling of an E. coli RNA polymerase promoter complex with reactive derivatives of oligonucleotide primers of various chemical specificities
AUTHOR(S): Tsarev, I. G.; Mustaev, A. A.; Zaychikov, E. F.; Alikina, T. Yu.; Ven'yaminova, A. G.; Repkova, M. N.
CORPORATE SOURCE: Limnol. Inst., Irkutsk, USSR
SOURCE: Bioorg. Khim. (1990), 16(6), 765-79
CODEN: BIKHD7; ISSN: 0132-3423
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB A technique of highly selective affinity labeling, which includes covalent modification of the enzyme-T7A2 promoter complex with reactive oligonucleotide derivs. and subsequent elongation of the attached oligonucleotide residue with a radioactive substrate, was used to study the product-binding site of Escherichia coli RNA polymerase. Different oligonucleotides complementary to the T7A2 promoter (with lengths of 2-8 residues) contg. 5'-terminal phosphorylating, alkylating, or aldehyde groups were used for labeling. The procedure resulted in labeling DNA and .beta., .beta.', or .sigma. subunits of the enzyme, which are therefore believed to contact growing RNA in the course of initiation. Consideration of the labeling patterns as a function of oligonucleotide length as well as of the structure and chem. specificity of the reactive groups led to a tentative topog. scheme of the RNA polymerase product-binding region.

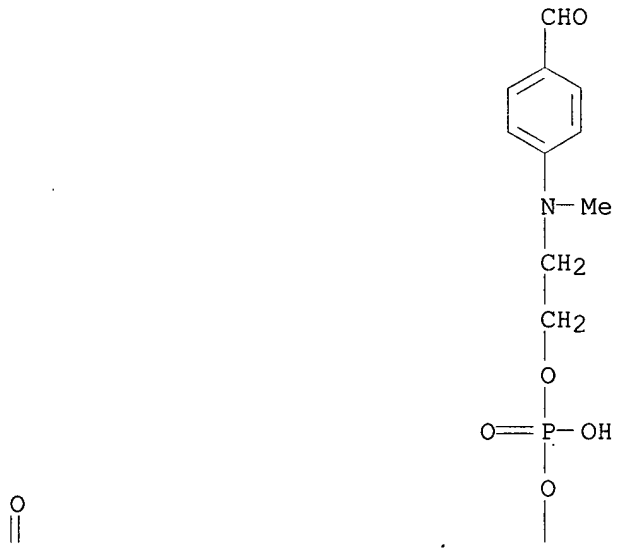
IT **131401-19-9P 131401-20-2P 131401-22-4P**
131401-23-5P 131401-24-6P 131401-25-7P
131419-77-7P 131419-78-8P 131419-79-9P
131419-80-2P
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, for affinity labeling studies of RNA polymerase-promoter complex, product-binding site in relation to)

RN 131401-19-9 HCAPLUS

CN Cytidine, 2'-deoxy-5'-O-[[2-[(4-formylphenyl)methylamino]ethoxy]hydroxyphosphinyl]cytidylyl-(3'.fwdarw.5')-2'-deoxyguanylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

PAGE 1-A



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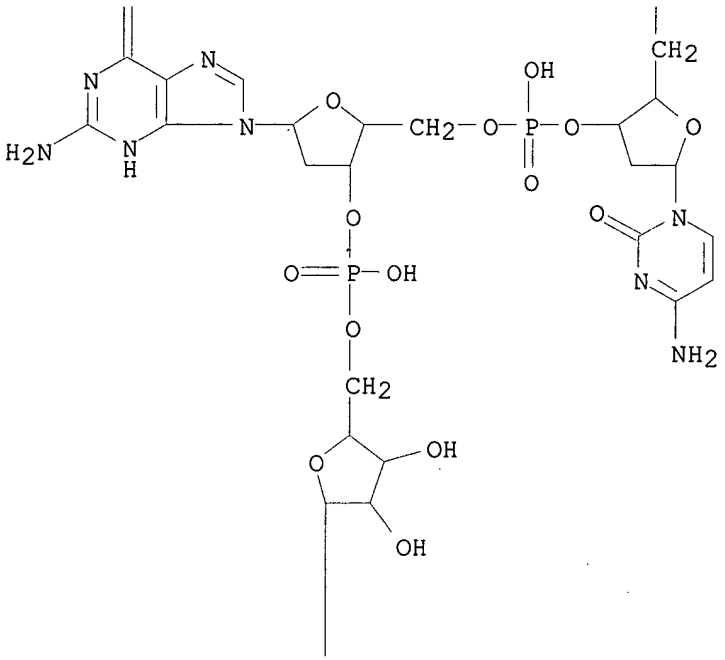

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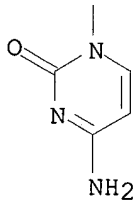

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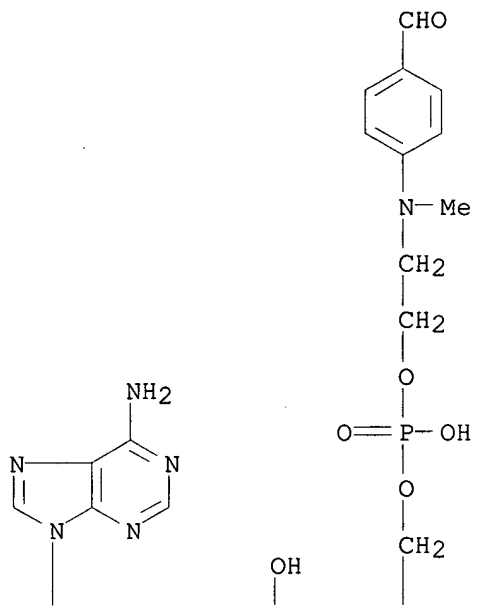
PAGE 1-B



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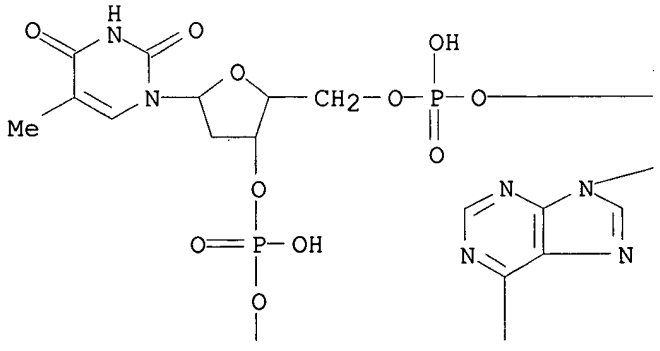

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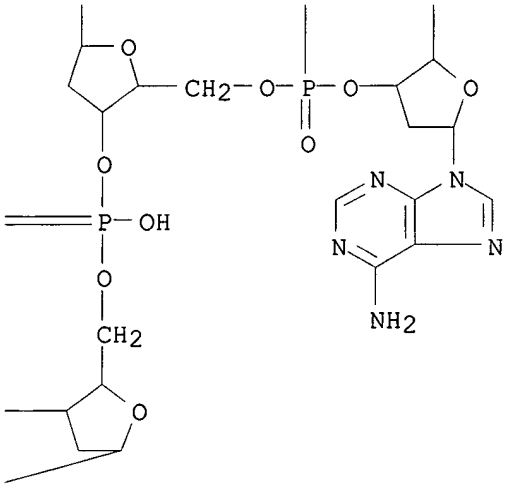

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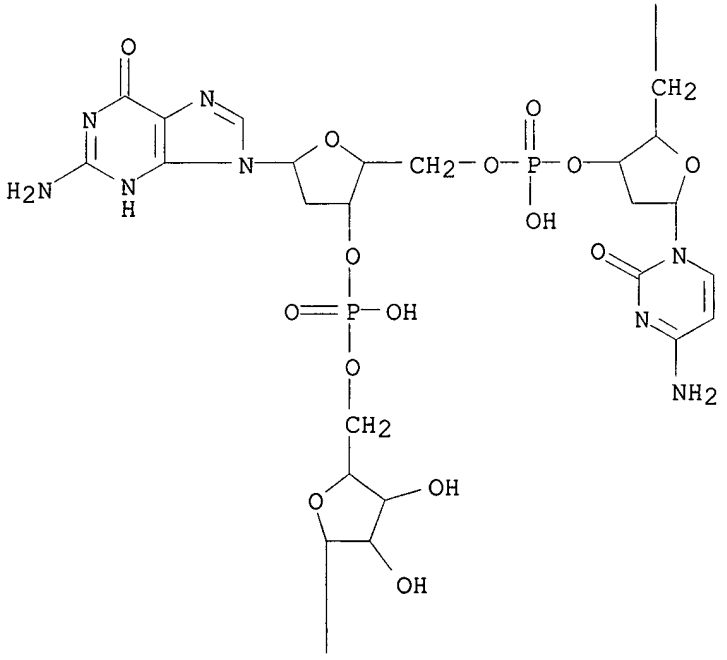

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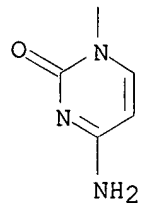

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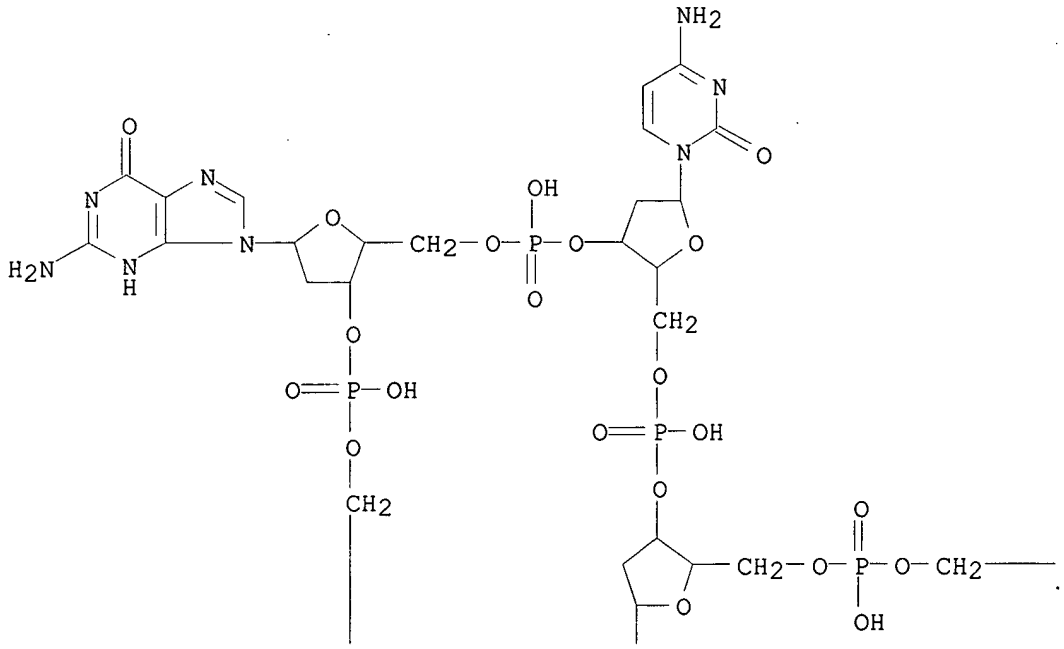
PAGE 1-A



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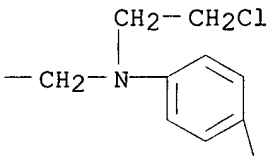

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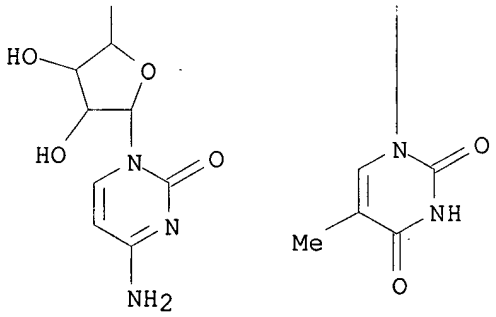

PAGE 2-B

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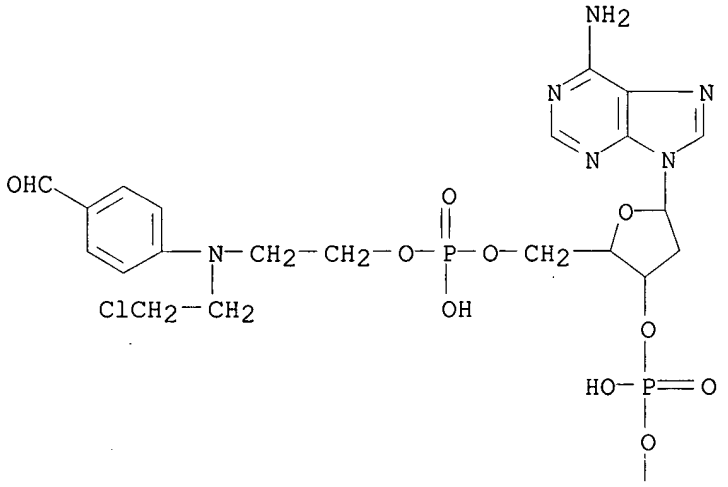
PAGE 1-A



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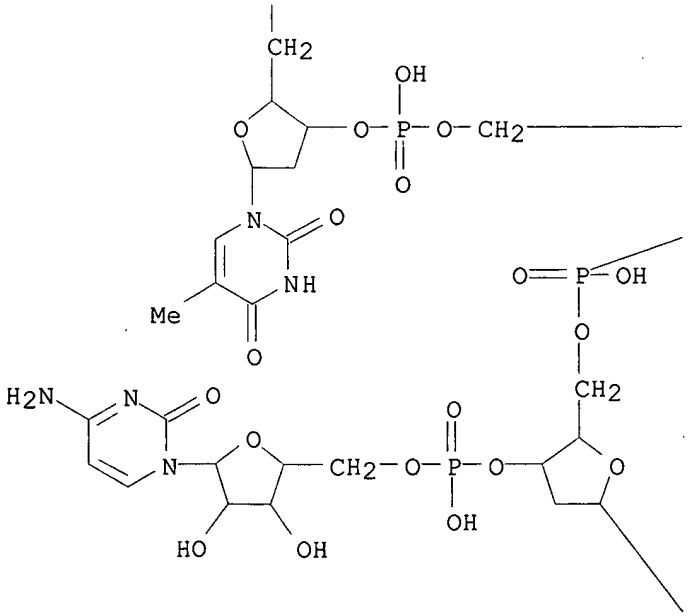

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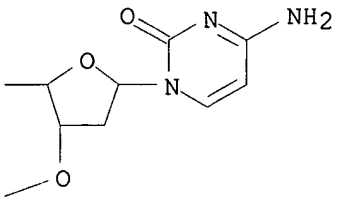

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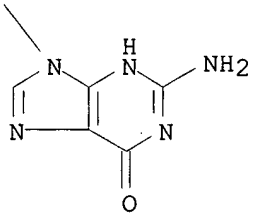

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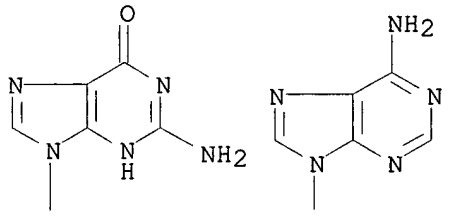
PAGE 1-A



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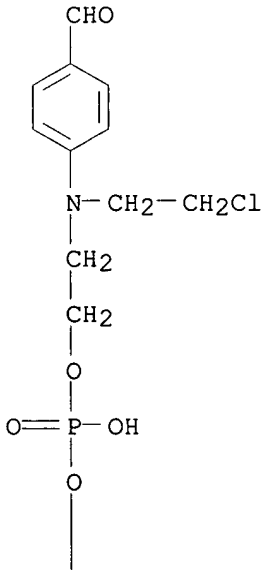

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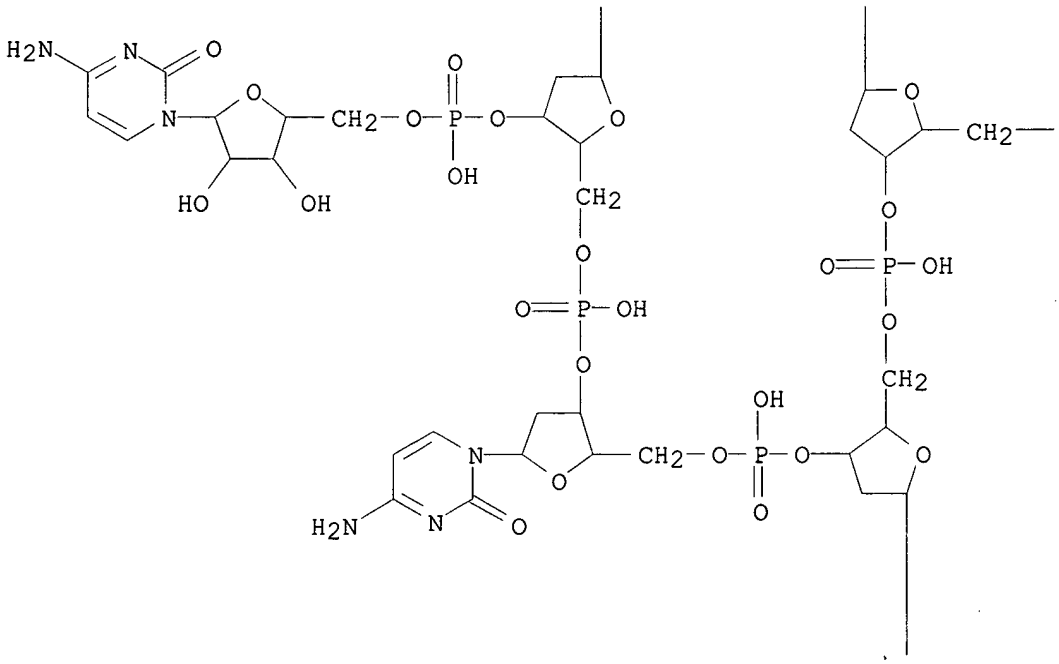

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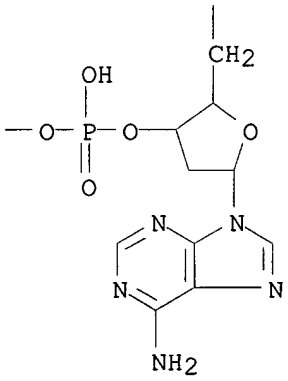

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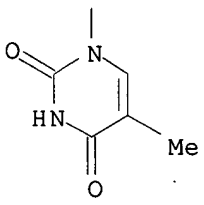

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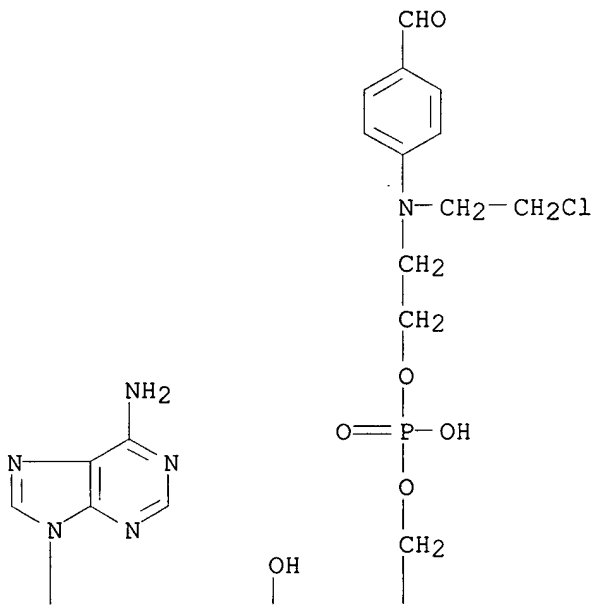
PAGE 1-B



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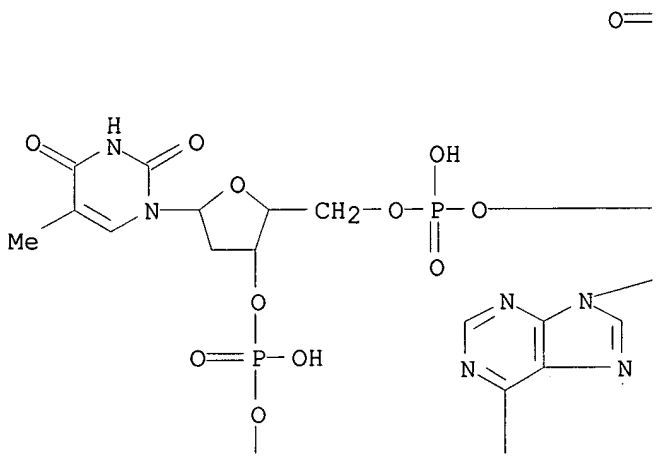

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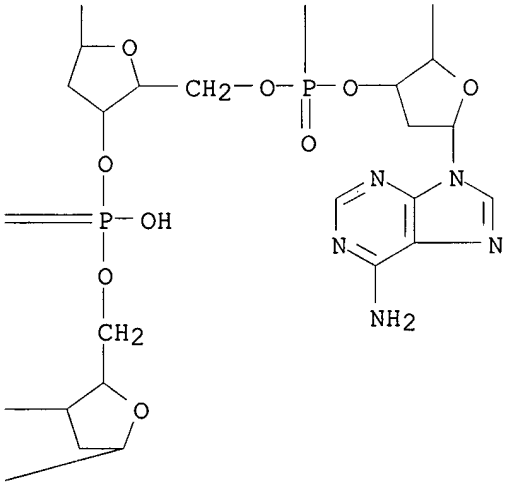

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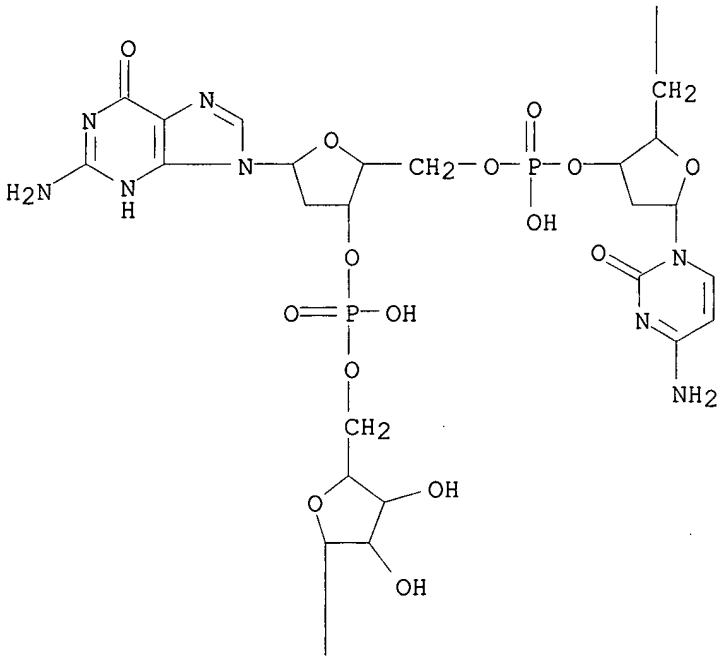

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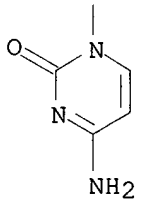

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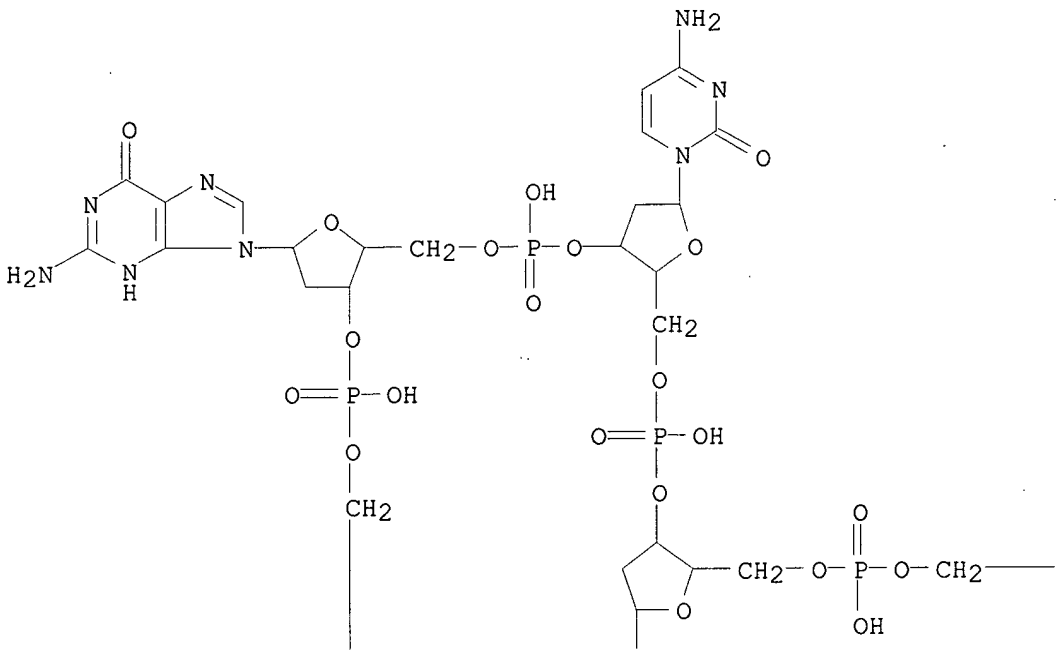
PAGE 1-A



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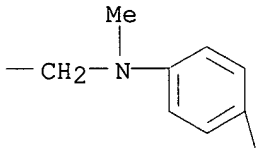

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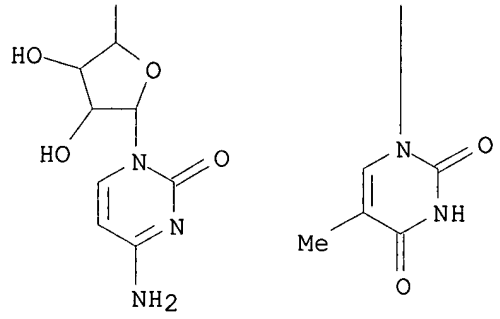

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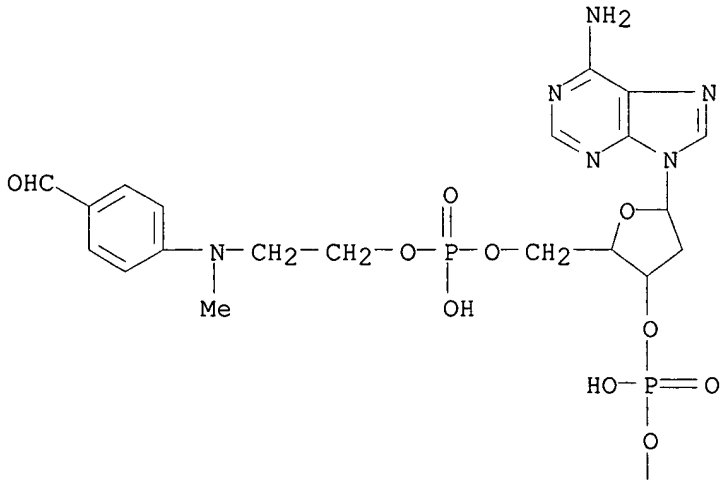

Searcher : Shears 308-4994

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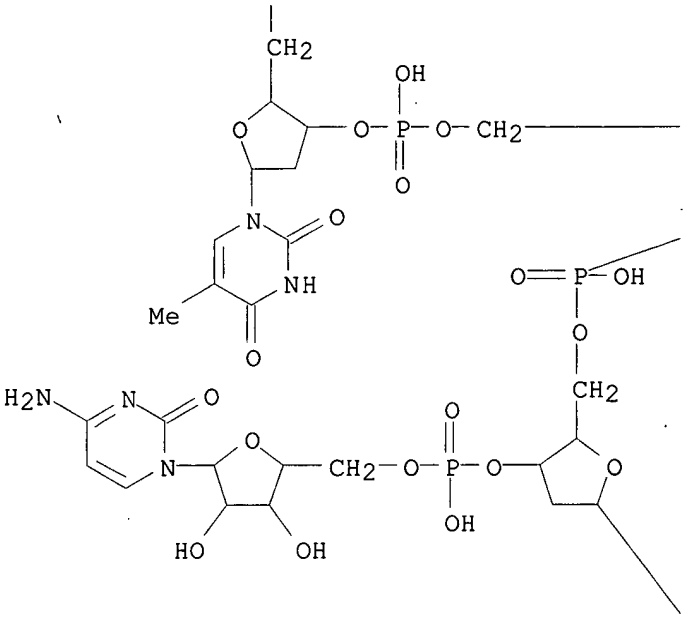

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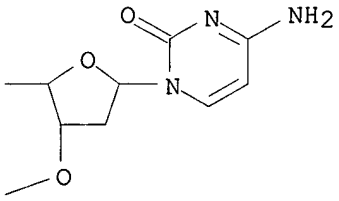

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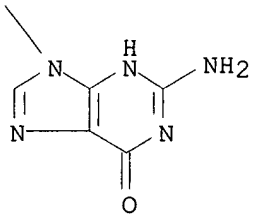

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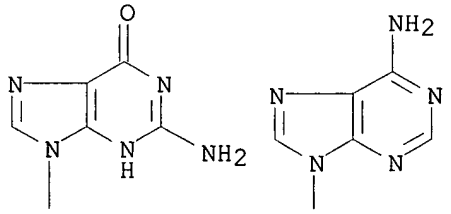
PAGE 1-A



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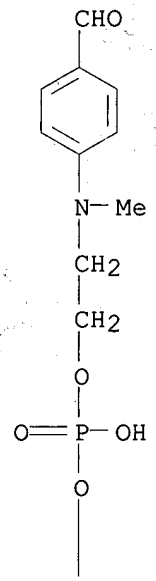

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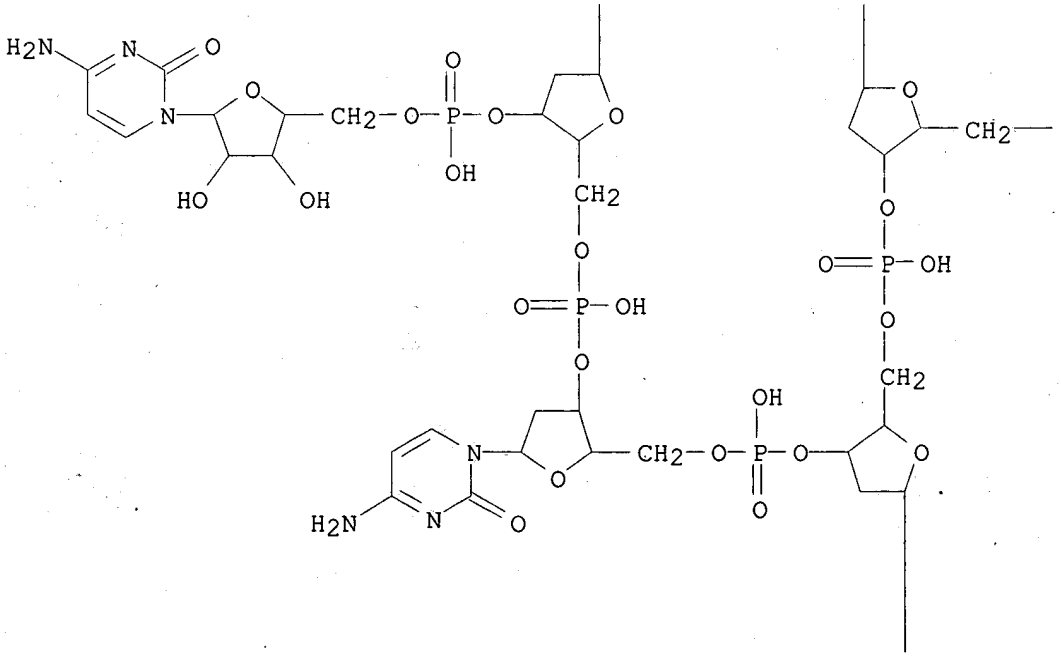

Searcher : Shears 308-4994

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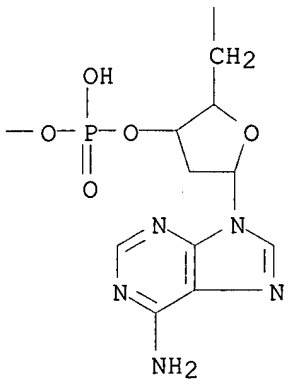

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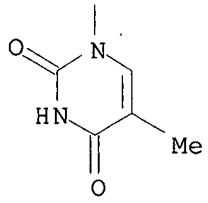

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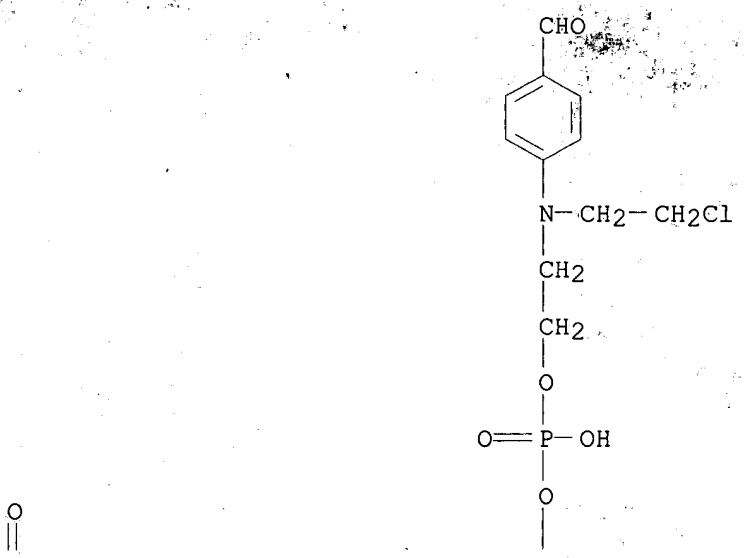
PAGE 1-A



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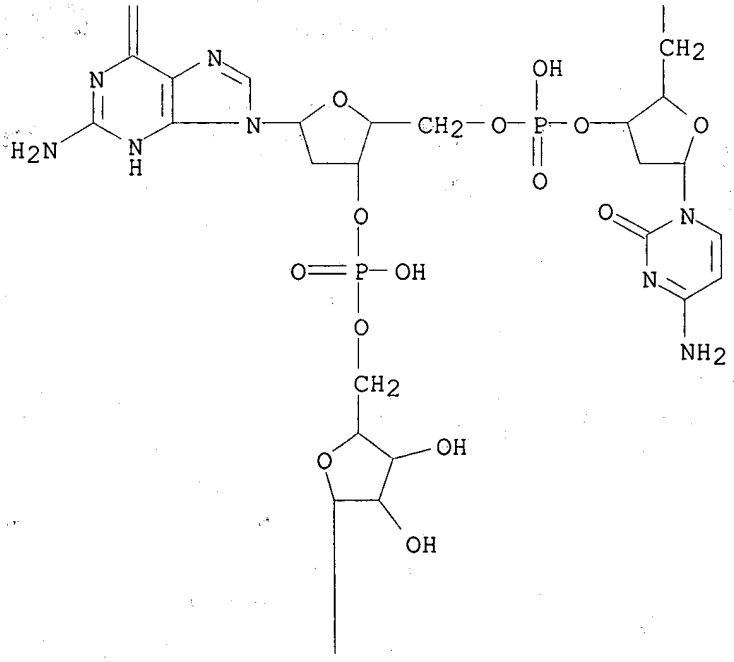

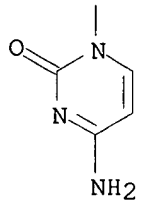

L11 ANSWER 13 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:58051 HCAPLUS
DOCUMENT NUMBER: 114:58051
TITLE: Stereochemical studies of the .beta.-elimination reactions at aldehydic abasic sites in DNA: endonuclease III from Escherichia coli, sodium hydroxide, and Lys-Trp-Lys
AUTHOR(S): Mazumder, Abhijit; Gerlt, John A.; Absalon, Michael J.; Stubbe, JoAnne; Cunningham, Richard P.; Withka, Jane; Bolton, Philip H.
CORPORATE SOURCE: Dep. Chem., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
SOURCE: Biochemistry (1991), 30(4), 1119-26
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The DNA strand cleavage reaction catalyzed by endonuclease III from E. coli (endo III) on the 3'-side of aldehydic abasic sites proceeds by a syn .beta.-elimination involving abstraction of the 2'-pro-S proton and formation of a trans .alpha.,.beta.-unsatd. aldose product; the same stereochem. course was previously reported for the reaction catalyzed by UV endonuclease V from **bacteriophage** T4 (UV endo V). Since UV endo V does not contain a 4Fe-4S center, the 4Fe-4S center present in endo III need not be assigned a unique role in the .beta.-elimination reaction. The .beta.-elimination reactions that occur under alk. conditions (0.1 N NaOH) and in the presence of the tripeptide Lys-Trp-Lys proceed by anti .beta.-elimination mechanisms involving abstraction of the 2'-pro-R proton and formation of a trans .alpha.,.beta.-unsatd. aldose product. The different stereochem. outcomes of the enzymic and nonenzymic .beta.-elimination reactions support the hypothesis that the enzyme-catalyzed reactions may involve general-base-catalyzed abstraction of the 2'-pro-S proton by the internucleotidic phosphodiester leaving group.

IT **130882-87-0**
RL: RCT (Reactant)
(reaction of, with endonuclease III of Escherichia coli, stereochem. and mechanism of, nonenzymic reaction in relation to)
RN 130882-87-0 HCAPLUS
CN DNA, d(C-G-C-A-G-(3'.fwdarw.5)-(oxyphosphinico-2-deoxy-D-erythro-pentos-3-O-ylphosphinicooxy)-(3.fwdarw.5')-C-A-G-C-C), complex with DNA d(G-G-C-T-G-A-C-T-G-C-G) (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 130882-86-9
CMF C107 H135 N43 O65 P10

Absolute stereochemistry.

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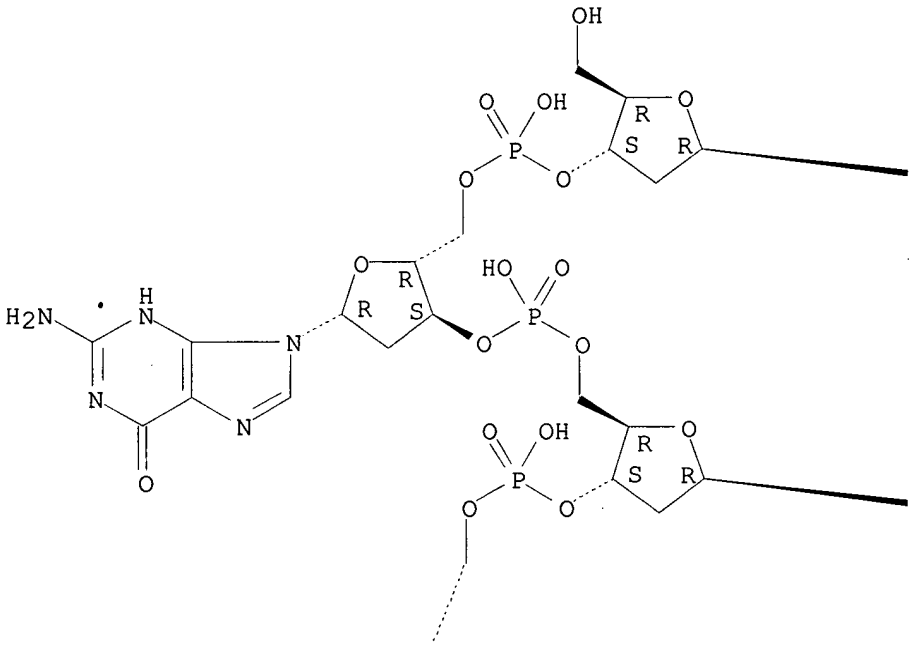

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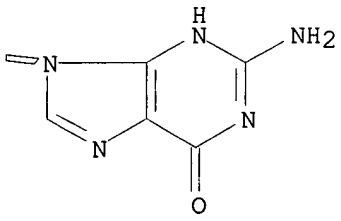

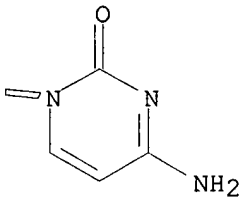

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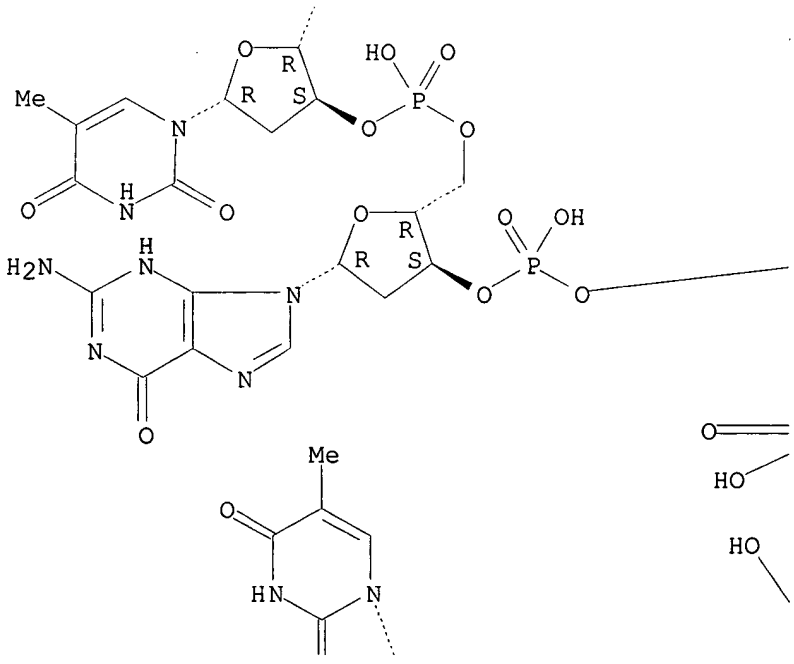

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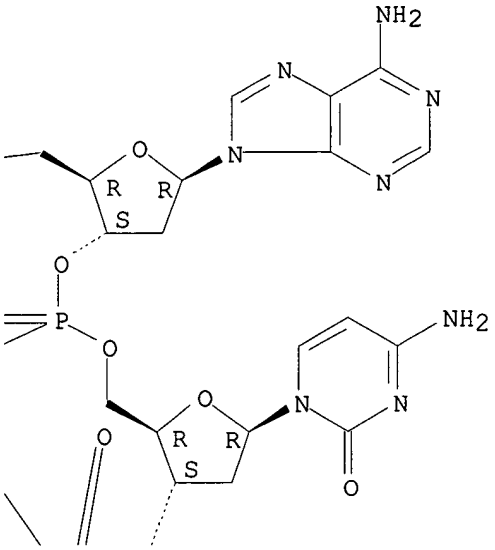

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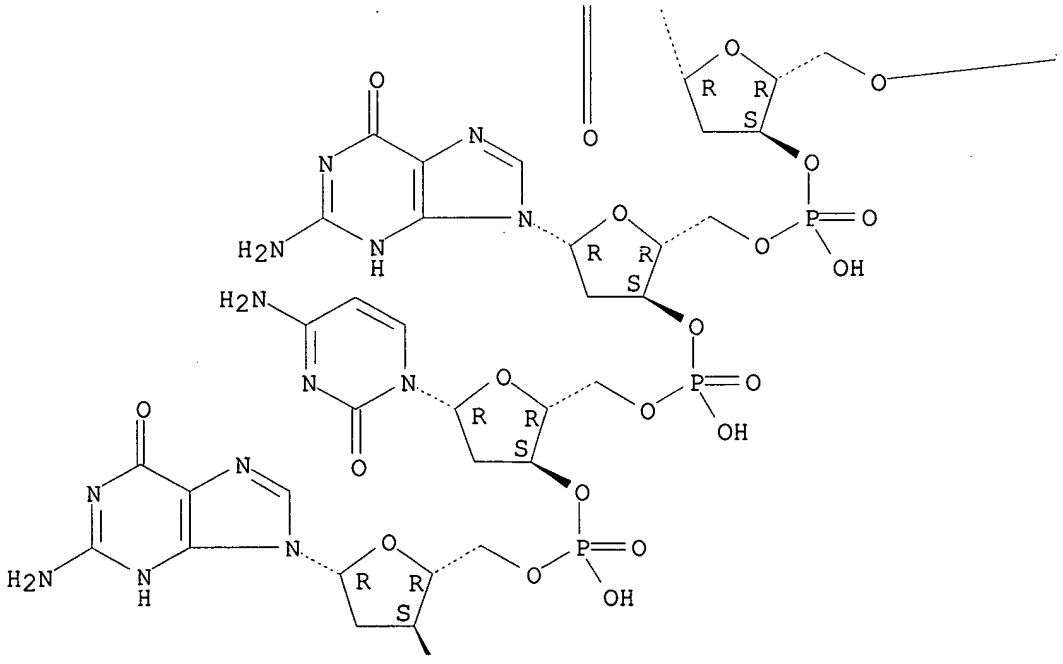

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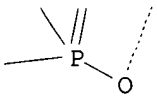

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CM 2

CRN 130882-85-8
CMF C100 H130 N40 O62 P10

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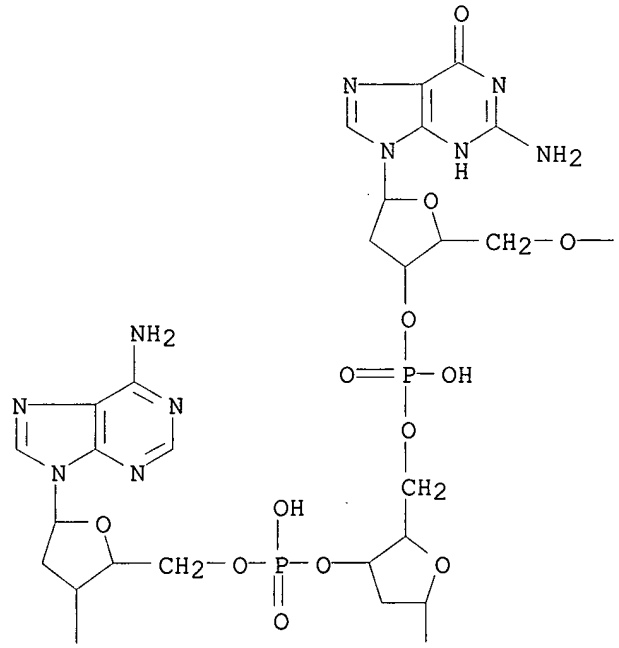

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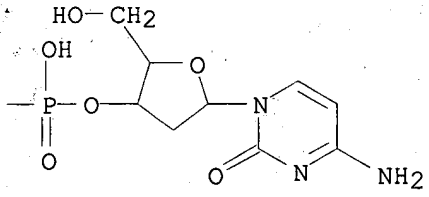

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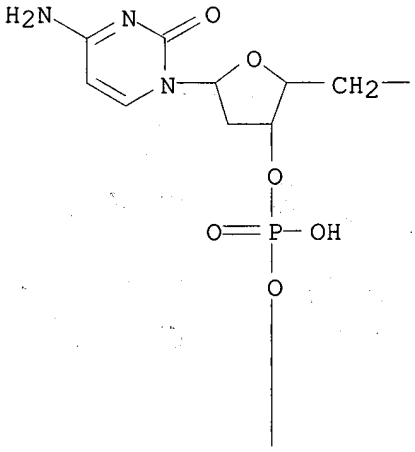

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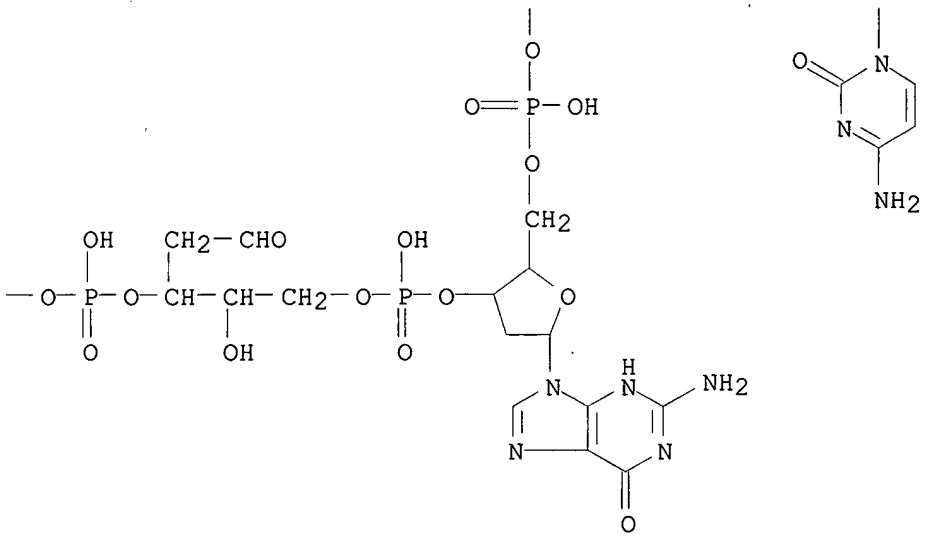

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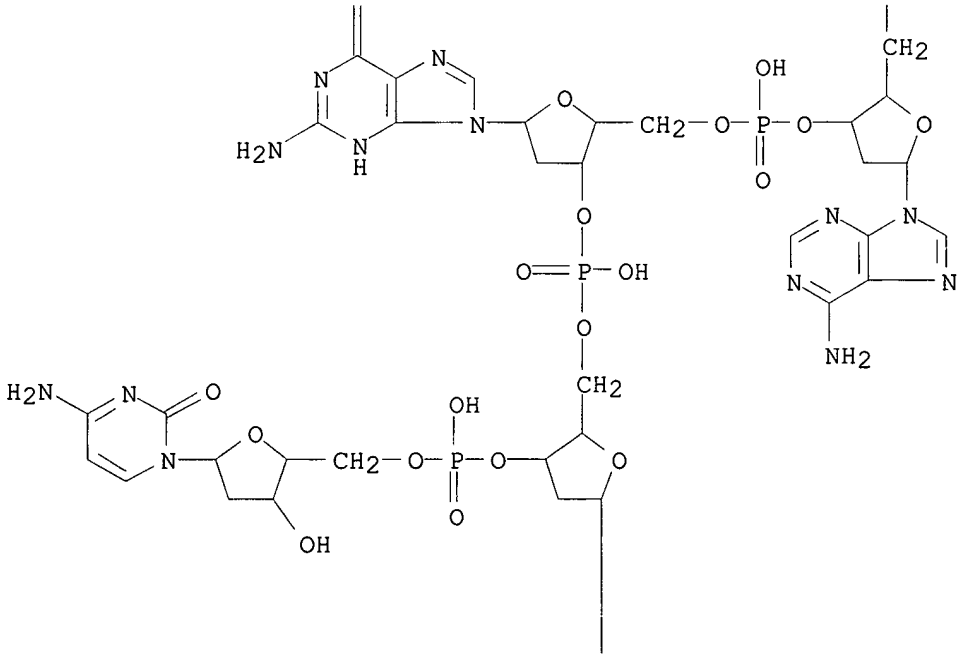
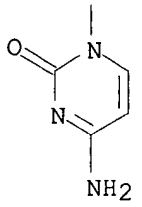


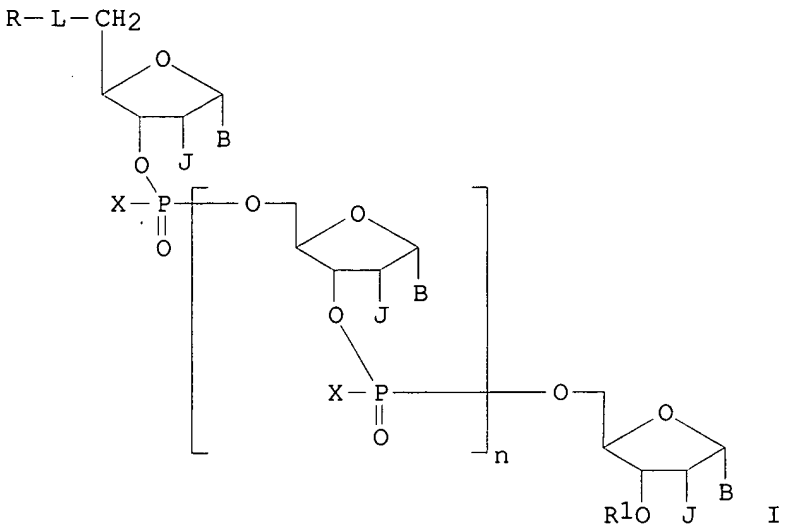


L11 ANSWER 14 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:439835 HCAPLUS
DOCUMENT NUMBER: 111:39835
TITLE: Preparation of .alpha.-D-oligonucleotide derivatives as artificial nucleases
INVENTOR(S): Helene, Claude; Nguyen, Thank Thuong
PATENT ASSIGNEE(S): Centre National de la Recherche Scientifique, Fr.
SOURCE: Fr. Demande, 35 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2607507	A1	19880603	FR 1986-16797	19861202
FR 2607507	B1	19900413		
WO 8804301	A1	19880616	WO 1987-FR481	19871202
W: JP, US				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
EP 290583	A1	19881117	EP 1988-900022	19871202
EP 290583	B1	19930407		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 01502187	T2	19890803	JP 1988-500386	19871202
AT 87932	E	19930415	AT 1988-900022	19871202

PRIORITY APPLN. INFO.: FR 1986-16797 19861202
FR 1987-4339 19870327
EP 1988-900022 19871202
WO 1987-FR481 19871202

OTHER SOURCE(S): MARPAT 111:39835
GI



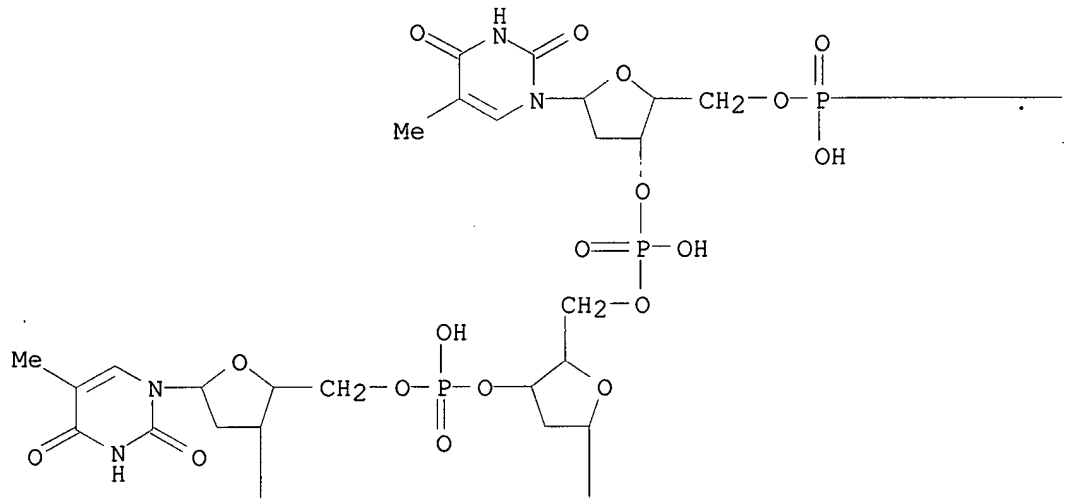
AB The title compds. [I; B = nucleic acid base; X = O-, S-, alkyl, alkoxy, etc.; L = O, S, NH; J = H, OH; n = integer, O; R, R1 = H, YZ, Y1Z1; Y, Y1 = alkylene (alk), P(O)XS-, P(O)X-O-alk-, etc.; Z, Z1 = intercalating agent, a group that may directly or indirectly link with nucleotides], useful as artificial nucleases (no data), are prepd. Octanucleotide .alpha.-(Tp)8(CH2)5-Acr [Acr = (2-chloro-6-methoxy-10-acridinyl)amino] was prepd. in many steps from 5'-O-(dimethoxytrityl)-.alpha.-thymidine.

IT **112591-87-4P 112591-90-9P 119051-51-3P 119082-35-8P 120886-02-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as artificial nuclease)

RN 112591-87-4 HCAPLUS

CN .alpha.-Thymidine, 5'-O-[[[5-[(6-chloro-2-methoxy-9-acridinyl)amino]pentyl]oxy]hydroxyphosphinyl]-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

PAGE 1-A



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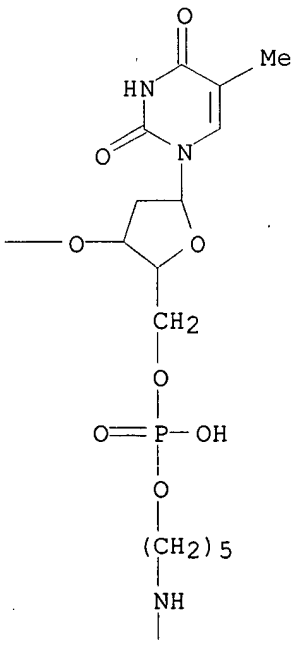

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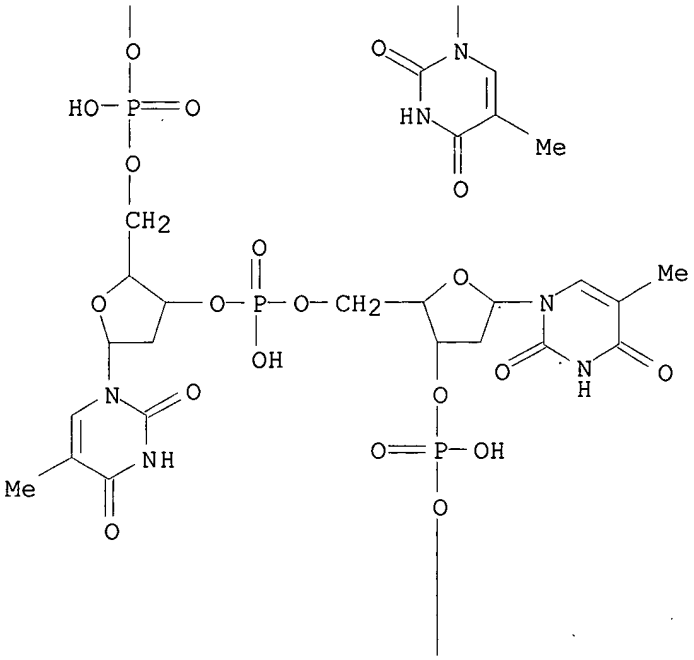

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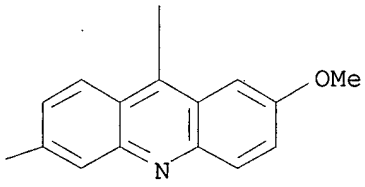

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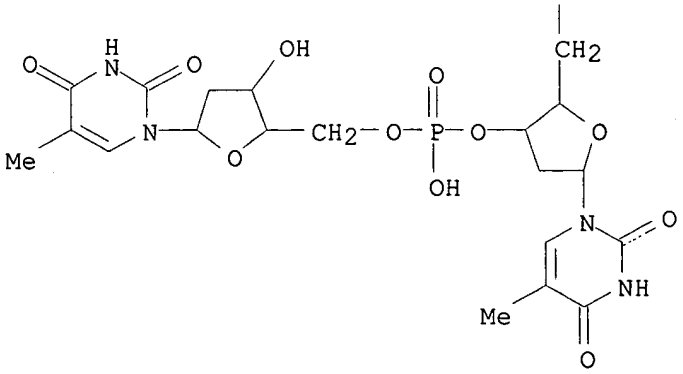

Searcher : Shears 308-4994

RN 112591-90-9 HCAPLUS
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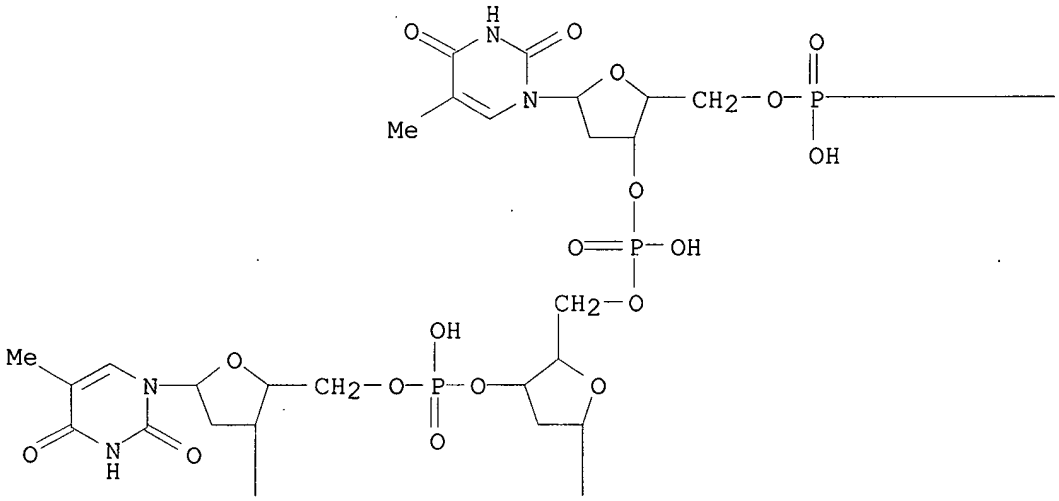
PAGE 1-A



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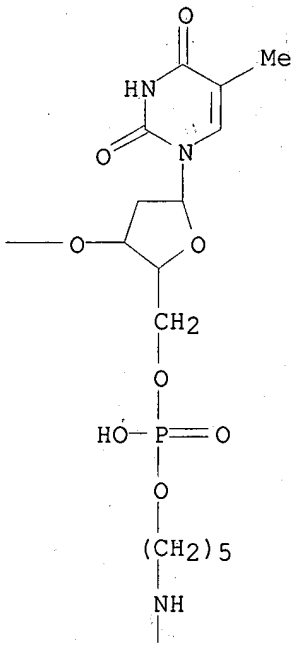

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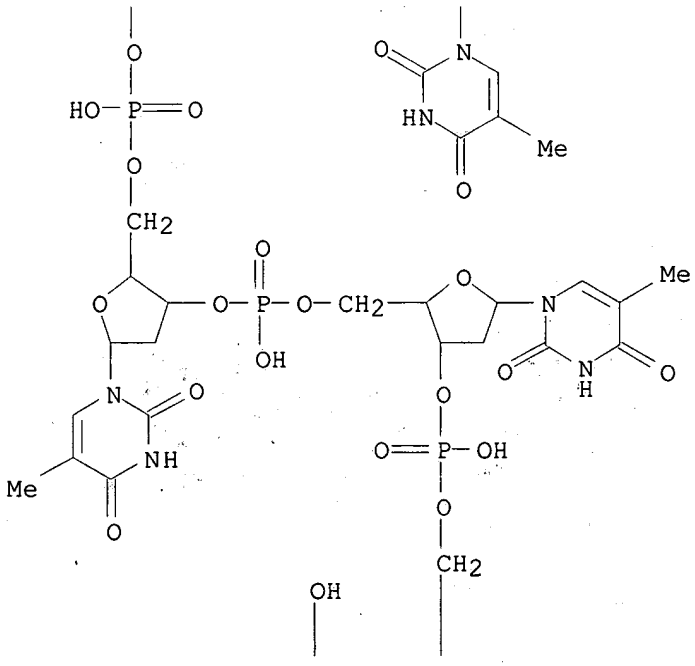

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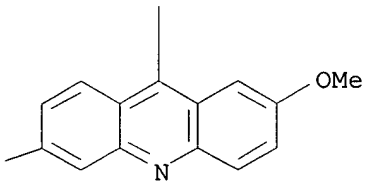

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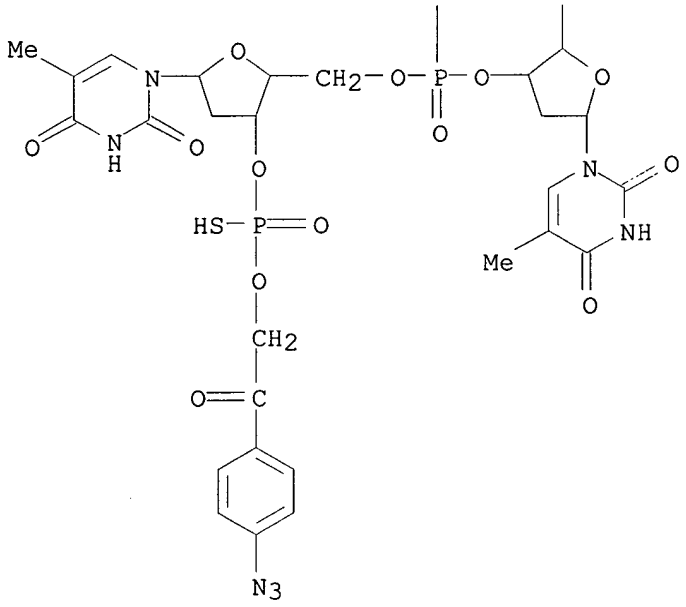

RN 119051-51-3 HCAPLUS
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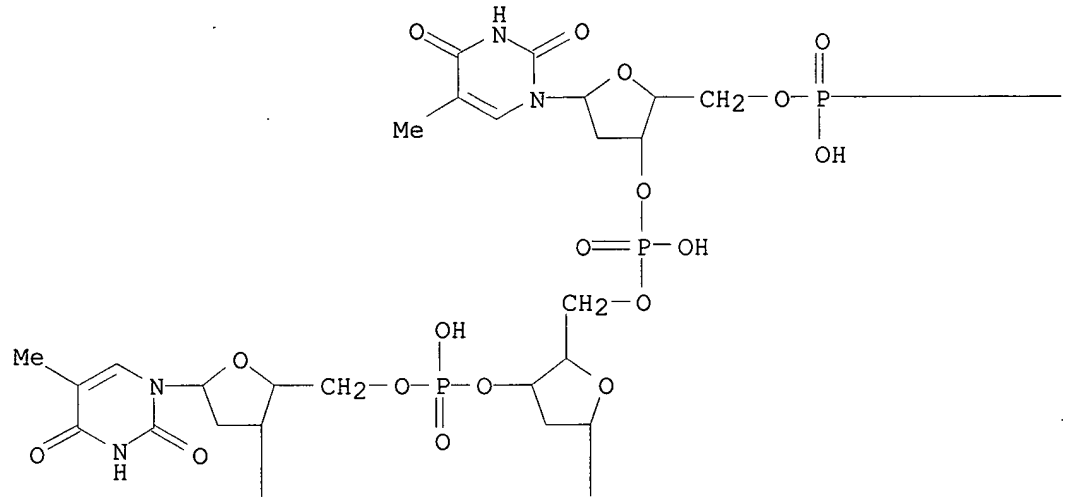
PAGE 1-A



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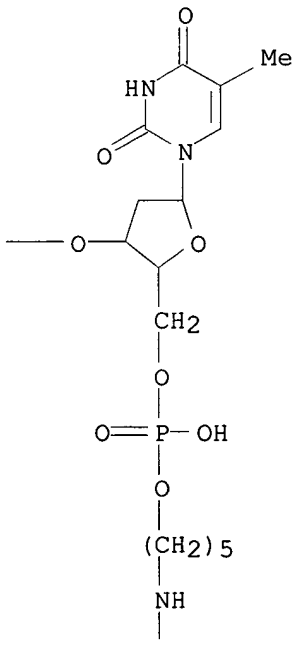

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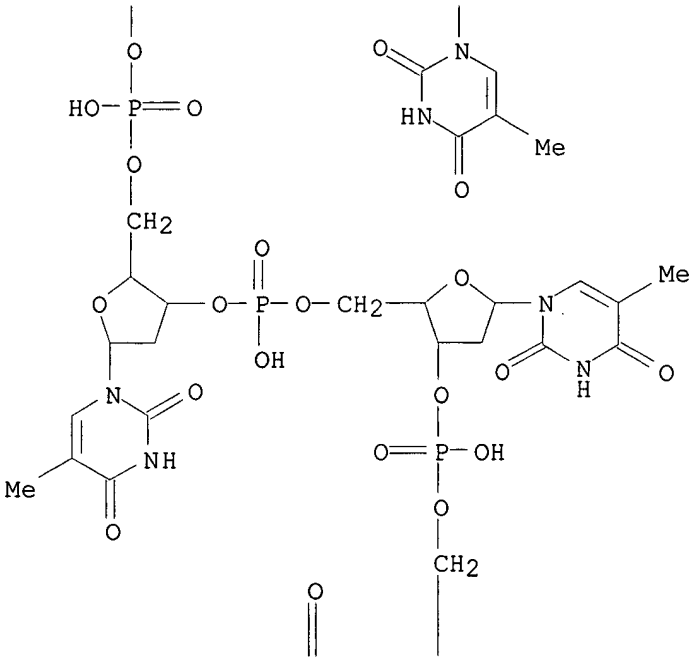

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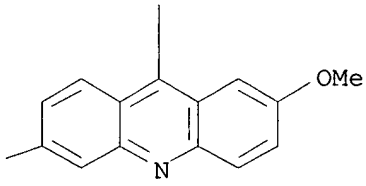

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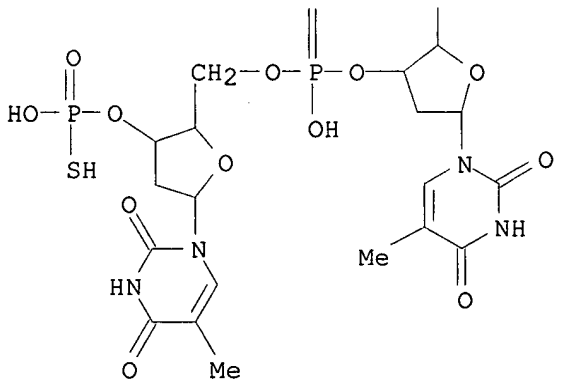

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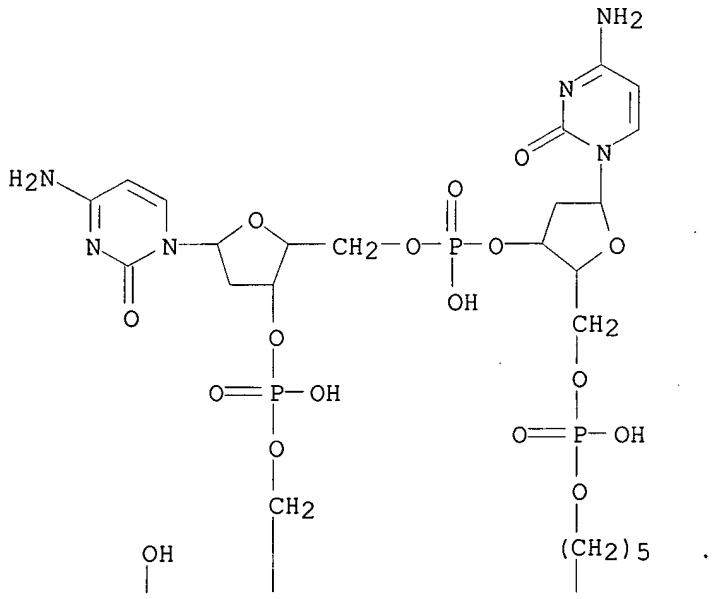

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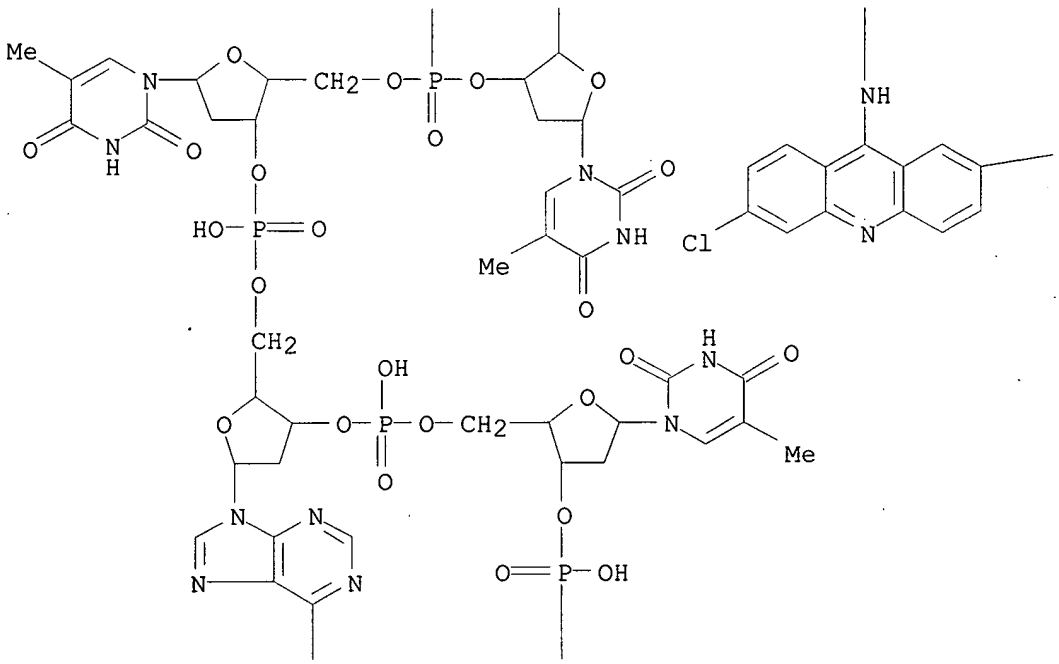

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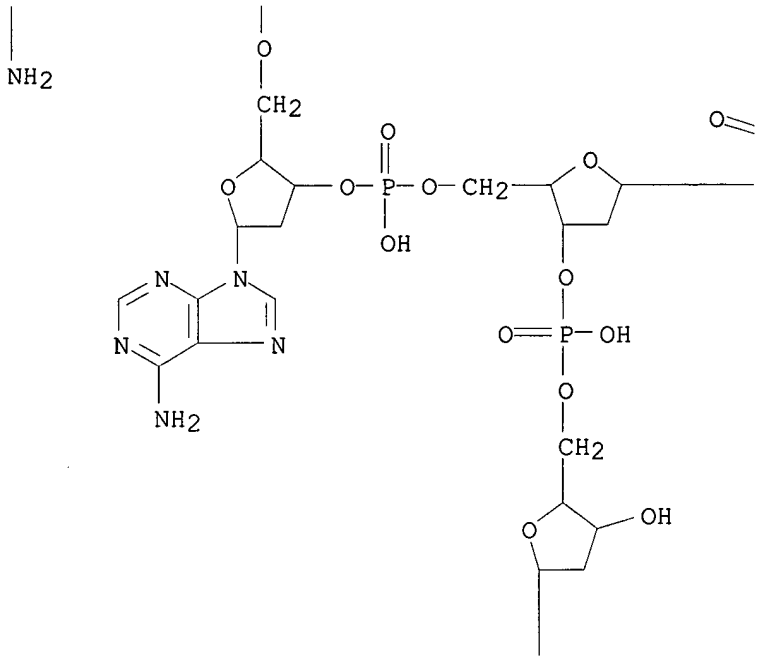

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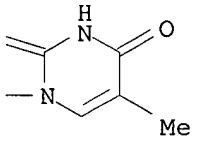

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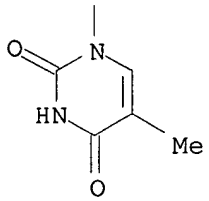
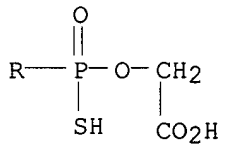
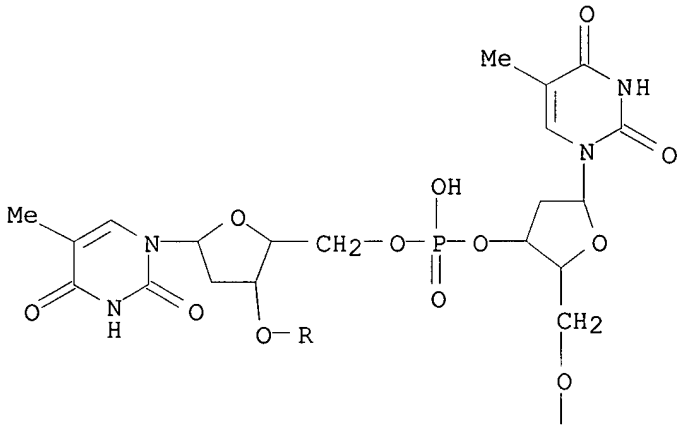


RN 120886-02-4 HCAPLUS
CN .alpha.-Thymidine, 5'-O-[[[5-[(6-chloro-2-methoxy-9-acridinyl)amino]pentyl]oxy]hydroxyphosphinyl]-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-

(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-, 3'-[O-(carboxymethyl) hydrogen phosphorothioate] (9CI) (CA INDEX NAME)

PAGE 1-A





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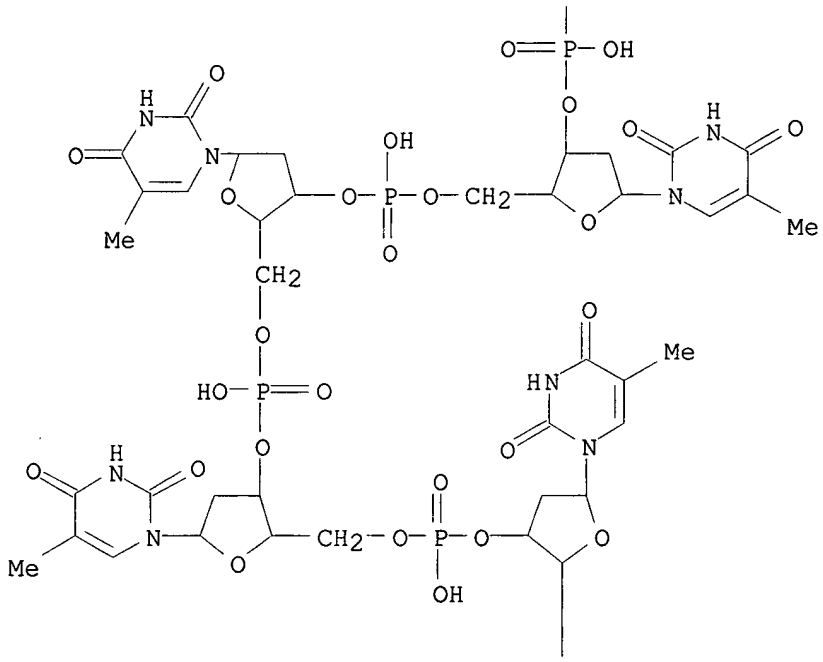

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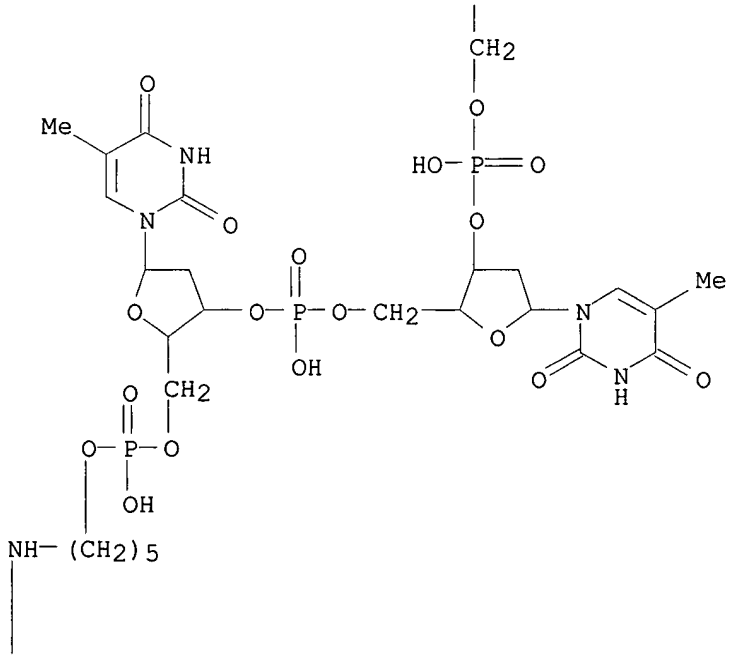

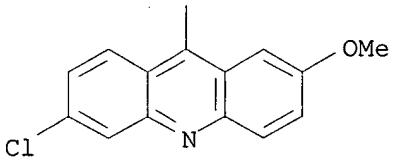

L11 ANSWER 15 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:135661 HCAPLUS
DOCUMENT NUMBER: 110:135661
TITLE: Preparation of .alpha.-(deoxy)oligonucleotide derivatives conaining an intercalating agent or reactive radical
INVENTOR(S): Helene, Claude; Imbach, Jean Louis; Nguyen Thanh Thuong; Paoletti, Claude; Rayner, Bernard
PATENT ASSIGNEE(S): Centre National de la Recherche Scientifique, Fr.
SOURCE: PCT Int. Appl., 111 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8804301	A1	19880616	WO 1987-FR481	19871202
W: JP, US				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
FR 2607507	A1	19880603	FR 1986-16797	19861202
FR 2607507	B1	19900413		
FR 2612930	A1	19880930	FR 1987-4339	19870327
FR 2612930	B1	19901228		
JP 01502187	T2	19890803	JP 1988-500386	19871202
AT 87932	E	19930415	AT 1988-900022	19871202

PRIORITY APPLN. INFO.: FR 1986-16797 19861202
FR 1987-4339 19870327
EP 1988-900022 19871202
WO 1987-FR481 19871202
OTHER SOURCE(S): CASREACT 110:135661; MARPAT 110:135661
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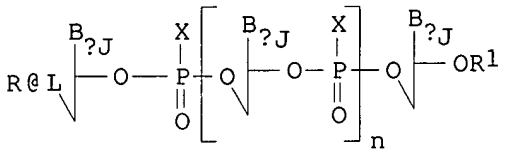

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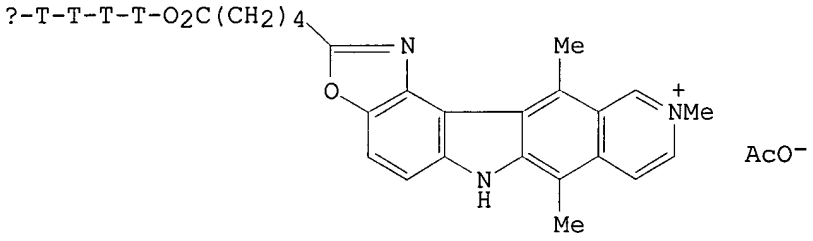


II

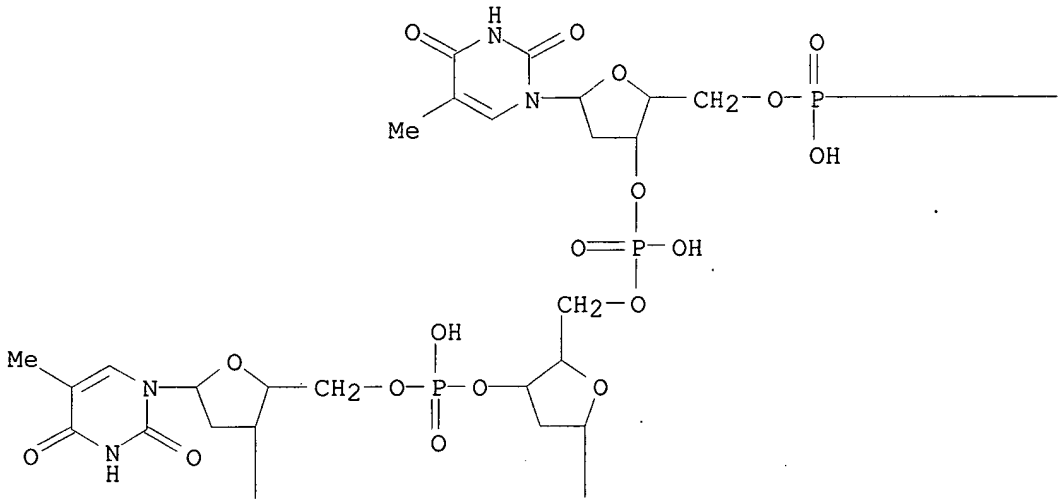
AB The title compds. [I; B = optionally substituted nucleotide base; J = H, OH; R, R1 = H, YZ, Y1Z1; n = 0, an integer; L = O, S, NH; Y, Y1 = alkylene, carbonylalkylene, carbonyliminoalkylene, etc.; Z, Z1 = intercalating agent residue, radical carrier of a reactive function], useful as antibiotics, antiviral, antitumor, or antiparacitic agents, are prepd. .alpha.-[D(CATGCG)] was prepd. by coupling of the appropriate 5'-O-dimethoxytrityl-.alpha.-nucleoside 3'-O-[(2-chloro-4-tritylphenyl)(2-cyanoethyl)] phosphates (obtained via, e.g., transglycosylation-anomerization of 4-N-benzoyl-3',5'-di-O-acetyl-2'-deoxycytidine) via the conventional detritylation, decyanoethylation, and condensation steps in as many cycles as necessary. Dmtr-.alpha.(TTTT) (Dmtr = dimethoxytrityl) was condensed with Dmtr-NH(CH2)5CO2H in the presence of DCC and DMAP to give Dmtr-.alpha.(TTTT)-O2C(CH2)5NH-Dmtr, which was deprotected with 80% AcOH to give .alpha.(TTTT)-O2C(CH2)5NH2, which was condensed with an enzyme-oxidized deriv. of 2-methyl-9-hydroxyellipticinium acetate to give a fluorescent compd. (II).

IT **112591-87-4P 119051-51-3P 119051-52-4P 119051-53-5P 119082-35-8P**
RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. of, as antitumor, **antimicrobial**, and antiparasitic agent)

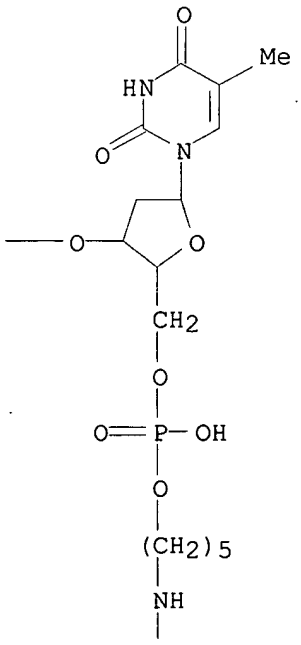
RN 112591-87-4 HCAPLUS

CN .alpha.-Thymidine, 5'-O-[[[5-[(6-chloro-2-methoxy-9-acridinyl)amino]pentyl]oxy]hydroxyphosphinyl]-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



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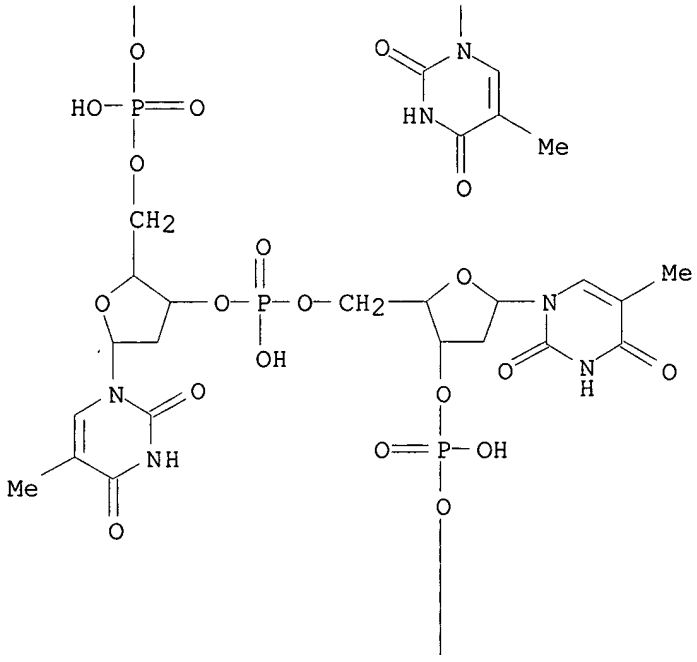

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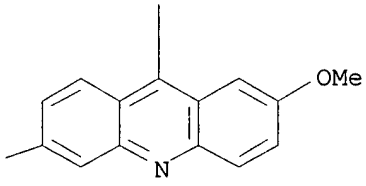
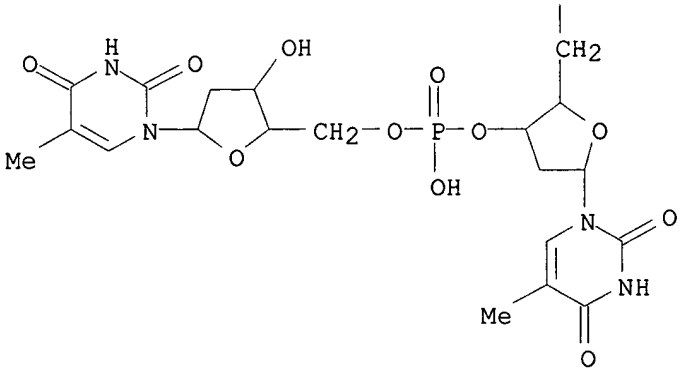
PAGE 2-B



PAGE 3-A



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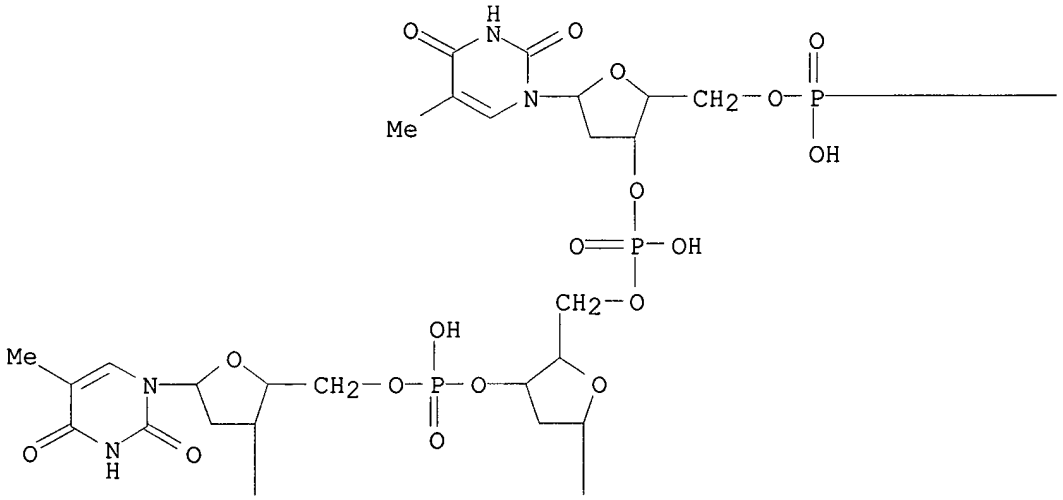
CN .alpha.-Thymidine, 5'-O-[[[5-[(6-chloro-2-methoxy-9-acridinyl)amino]pentyl]oxy]hydroxyphosphinyl]-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-, 3'-(dihydrogen phosphorothioate) (9CI) (CA INDEX NAME)

PAGE 1-A



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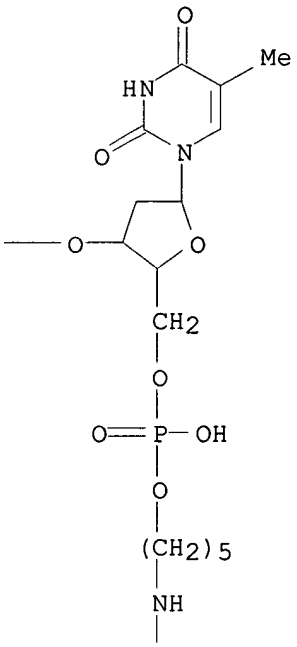

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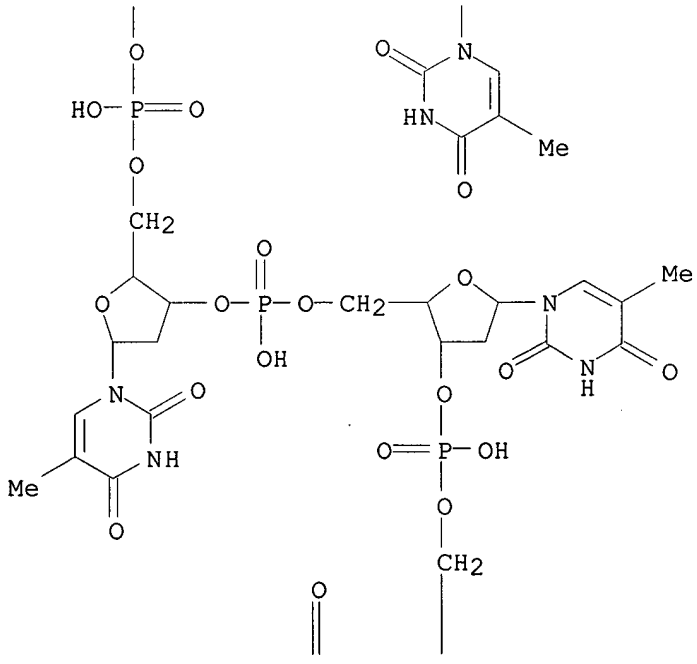

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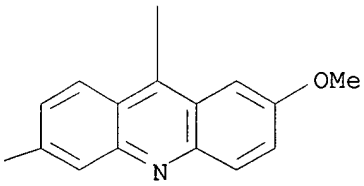
PAGE 2-B



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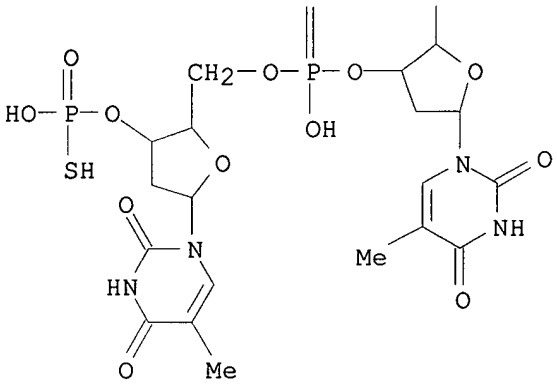
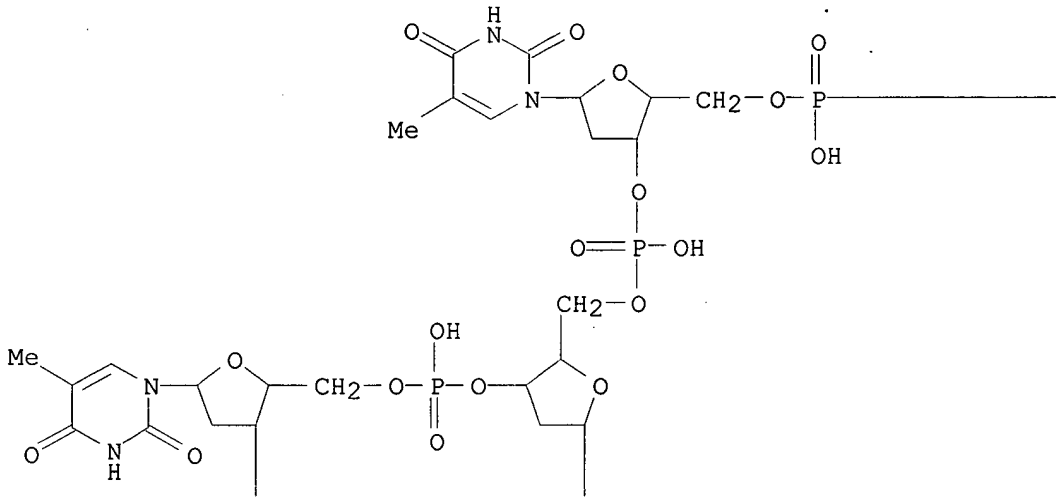


RN 119051-52-4 HCAPLUS

CN .alpha.-Thymidine, 5'-O-[[[5-[(6-chloro-2-methoxy-9-acridinyl)amino]pentyl]oxy]hydroxyphosphinyl]-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-, 3'-[S-[2-(4-azidophenyl)-2-oxoethyl] hydrogen phosphorothioate] (9CI) (CA INDEX NAME)

PAGE 1-A



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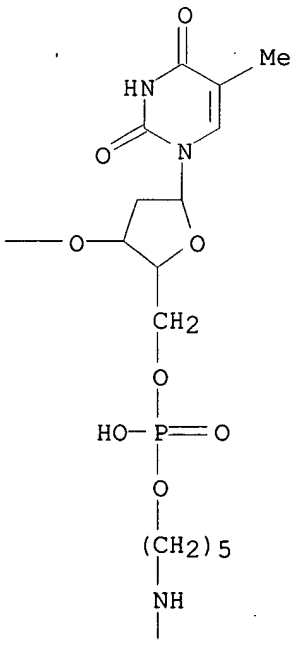

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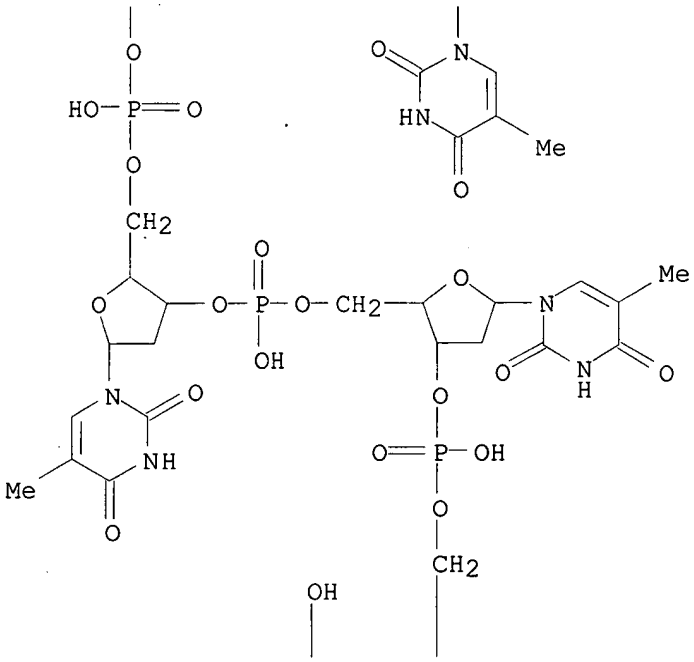

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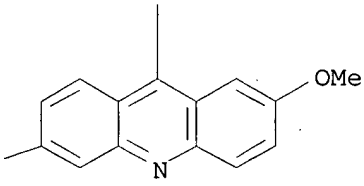
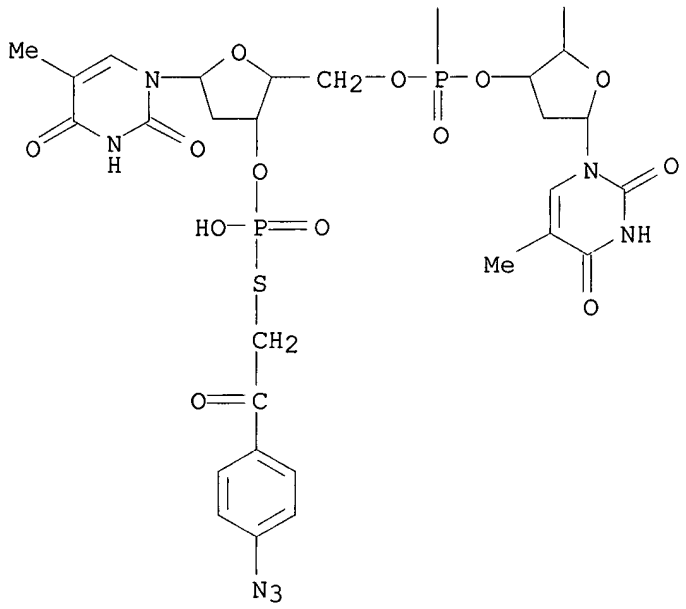
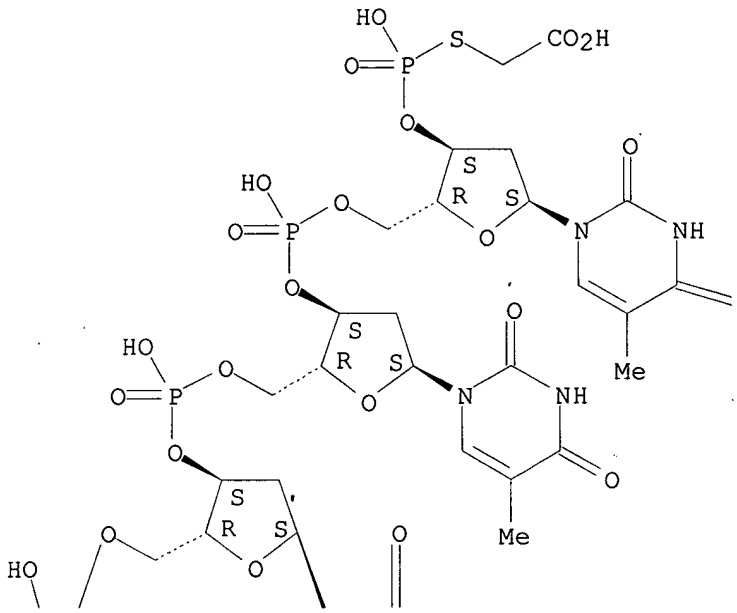




RN 119051-53-5 HCAPLUS
CN .alpha.-Thymidine, 5'-O-[[[5-[(6-chloro-2-methoxy-9-acridinyl)amino]pentyl]oxy]hydroxyphosphinyl]-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-, 3'-[S-(carboxymethyl) hydrogen phosphorothioate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.

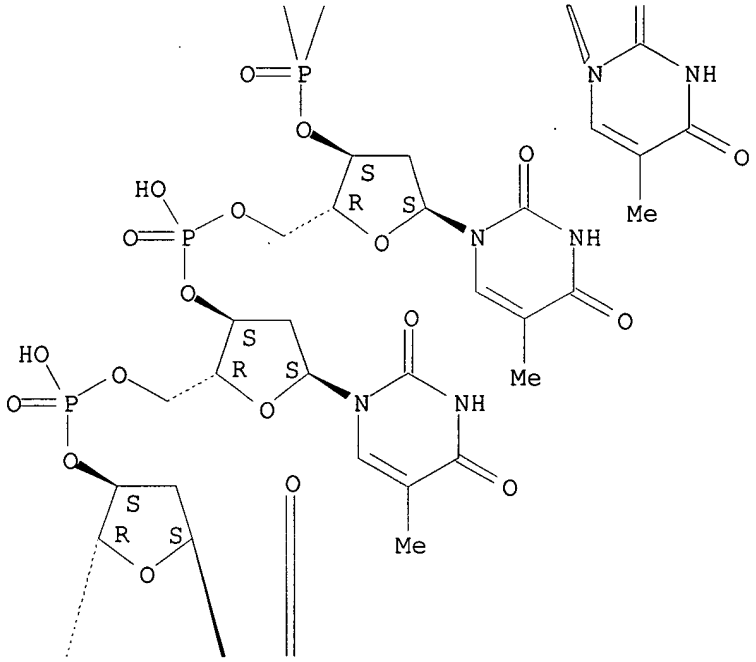
PAGE 1-A



PAGE 1-B

Searcher : Shears 308-4994

PAGE 2-A



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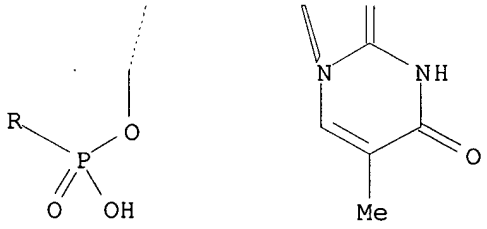
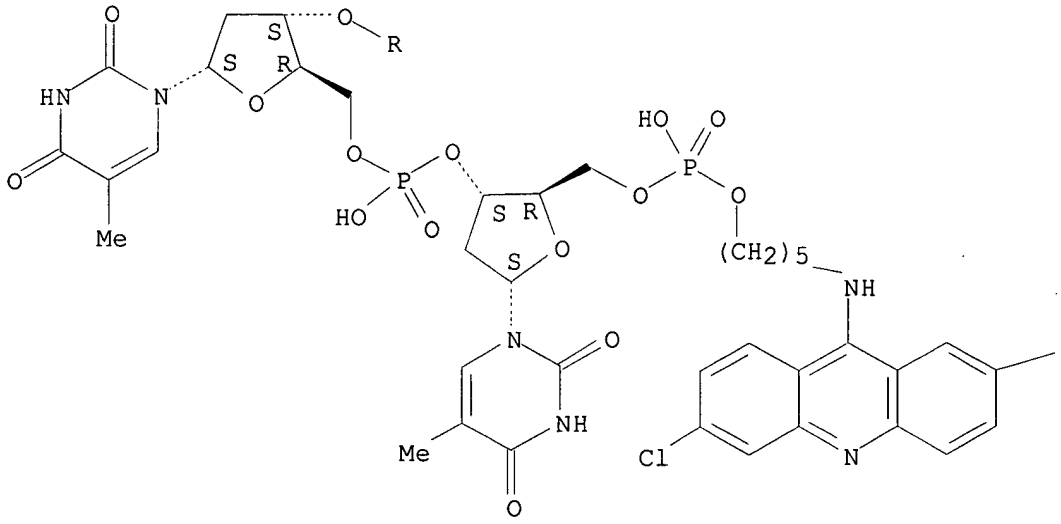


PAGE 4-A

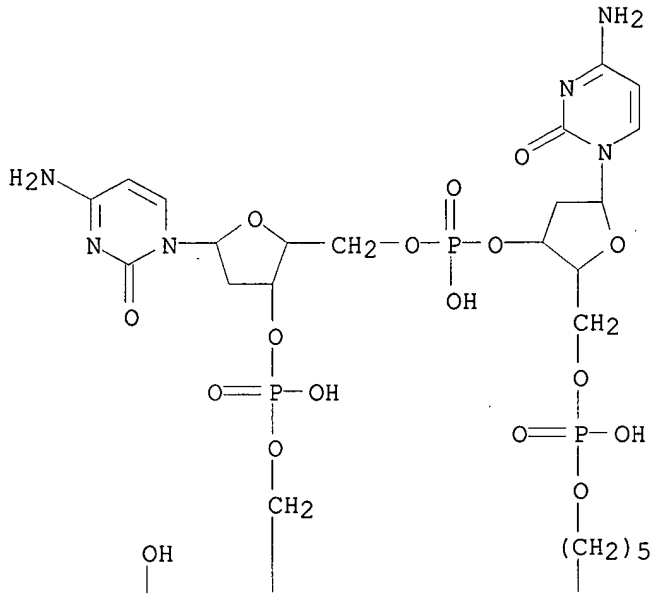


PAGE 4-B

—OMe

RN 119082-35-8 HCAPLUS
CN .alpha.-5'-Cytidylic acid, .alpha.-thymidylyl-(5'.fwdarw.3')-.alpha.-thymidylyl-(5'.fwdarw.3')-2'-deoxy-.alpha.-adenylyl-(5'.fwdarw.3')-.alpha.-thymidylyl-(5'.fwdarw.3')-2'-deoxy-.alpha.-adenylyl-(5'.fwdarw.3')-.alpha.-thymidylyl-(5'.fwdarw.3')-.alpha.-thymidylyl-(5'.fwdarw.3')-2'-deoxycytidylyl-(5'.fwdarw.3')-2'-deoxy-, 5'-[5-[(6-chloro-2-methoxy-9-acridinyl)amino]pentyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



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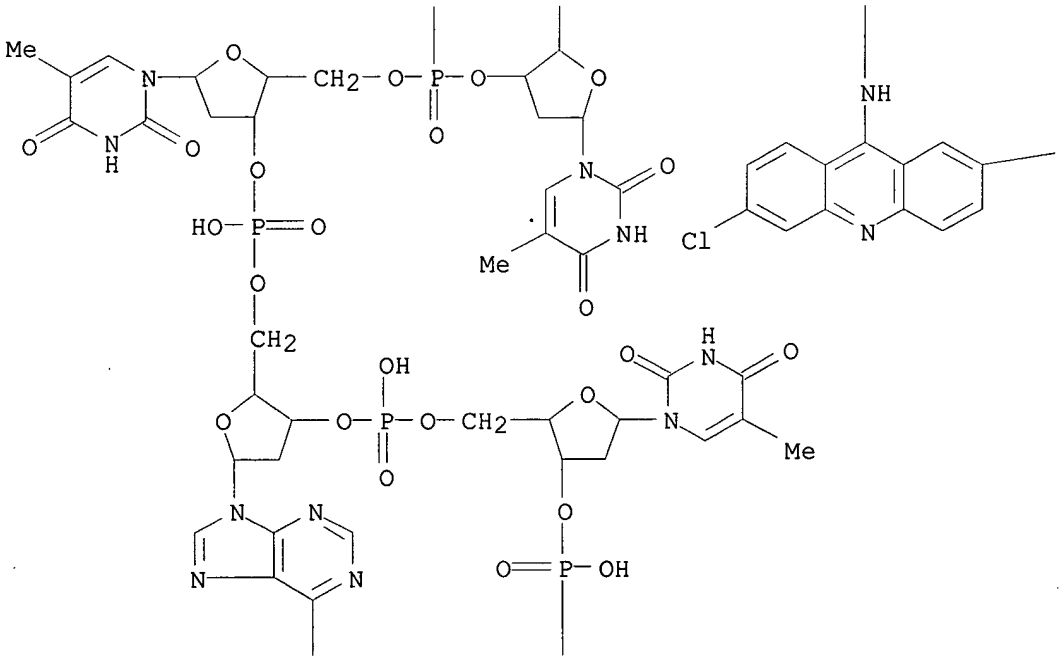

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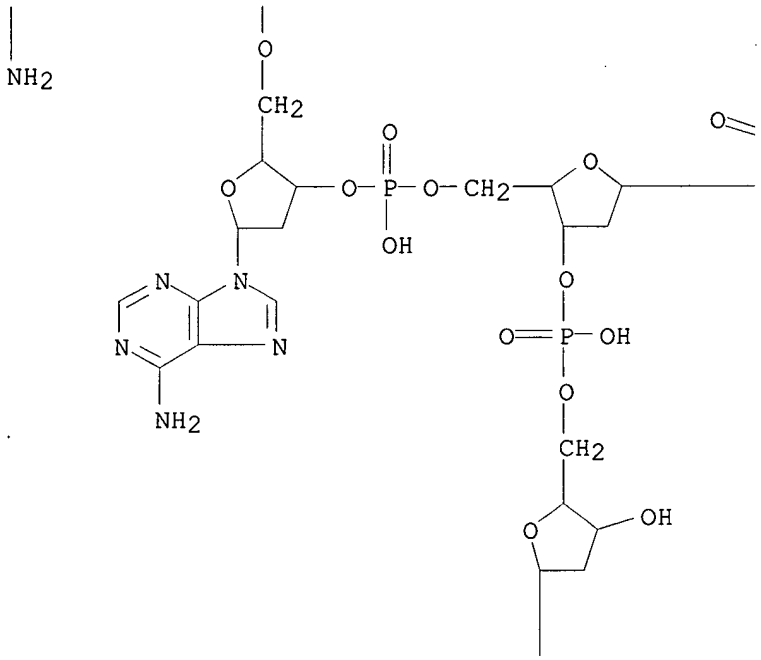
PAGE 3-A



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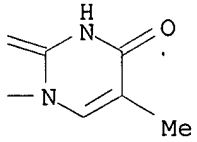

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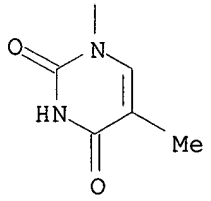
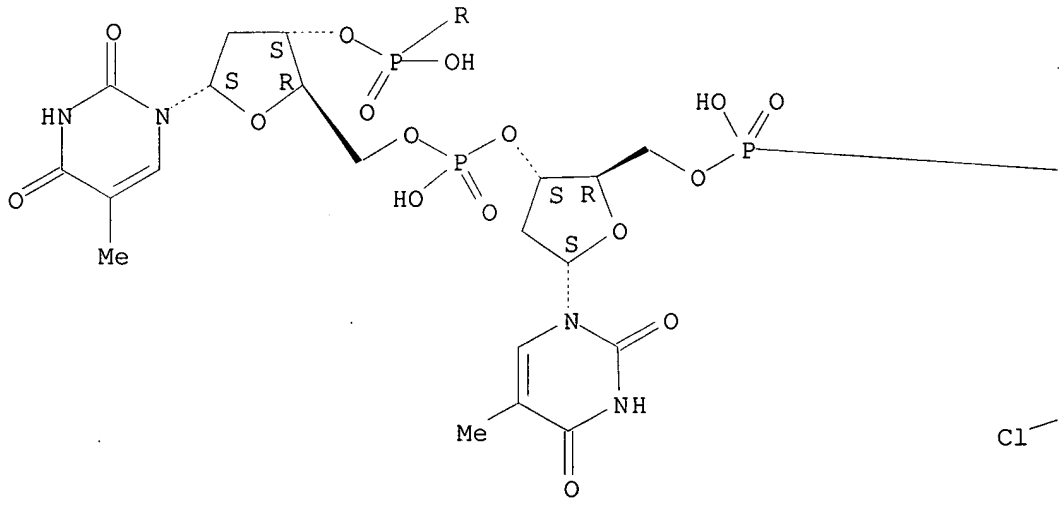


IT **119051-30-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as intermediate for antitumor, **antimicrobial**, and antiparasitic agents)
RN 119051-30-8 HCAPLUS
CN .alpha.-3'-Thymidylic acid, 5'-O-[[[5-[(6-chloro-2-methoxy-9-acridinyl)amino]pentyl]oxy]hydroxyphosphinyl]-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-.alpha.-thymidylyl-(3'.fwdarw.5')-, 3'-(4-chlorophenyl) 3'-(2-cyanoethyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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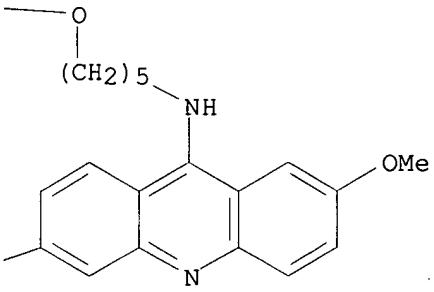

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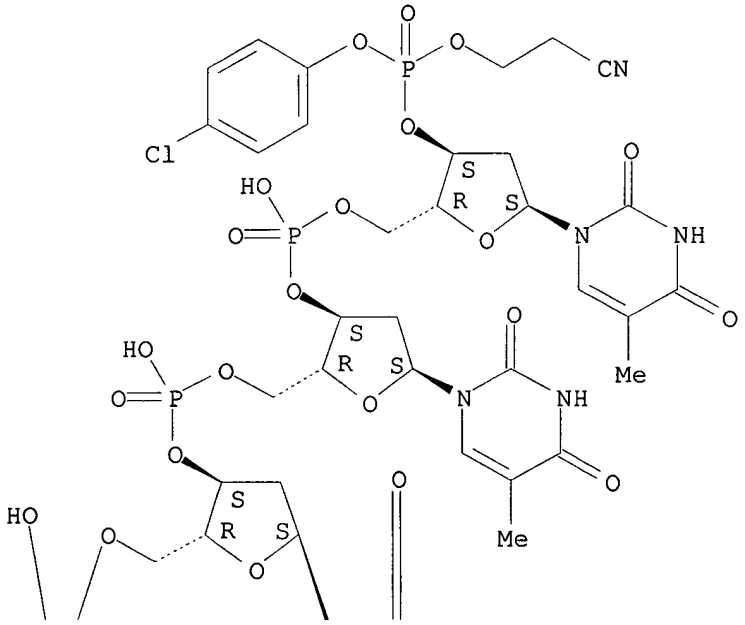
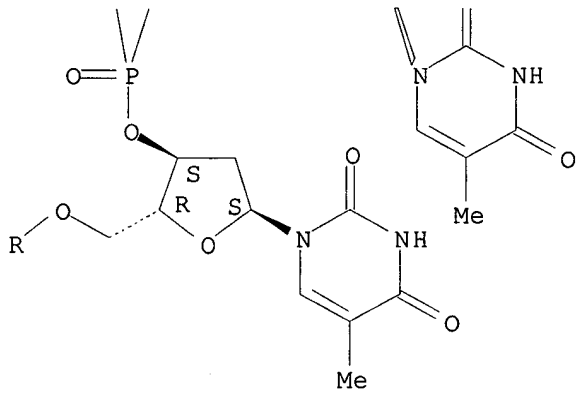




L11 ANSWER 16 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:182738 HCAPLUS
DOCUMENT NUMBER: 108:182738
TITLE: Mechanism of UV endonuclease V cleavage of abasic sites in DNA determined by carbon-13 labeling
AUTHOR(S): Manoharan, Muthiah; Mazumder, Abhijit; Ransom, Stephen C.; Gerlt, John A.; Bolton, Philip H.
CORPORATE SOURCE: Dep. Chem. Biochem., Univ. Maryland, College Park, MD, 20742, USA
SOURCE: J. Am. Chem. Soc. (1988), 110(8), 2690-1
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English

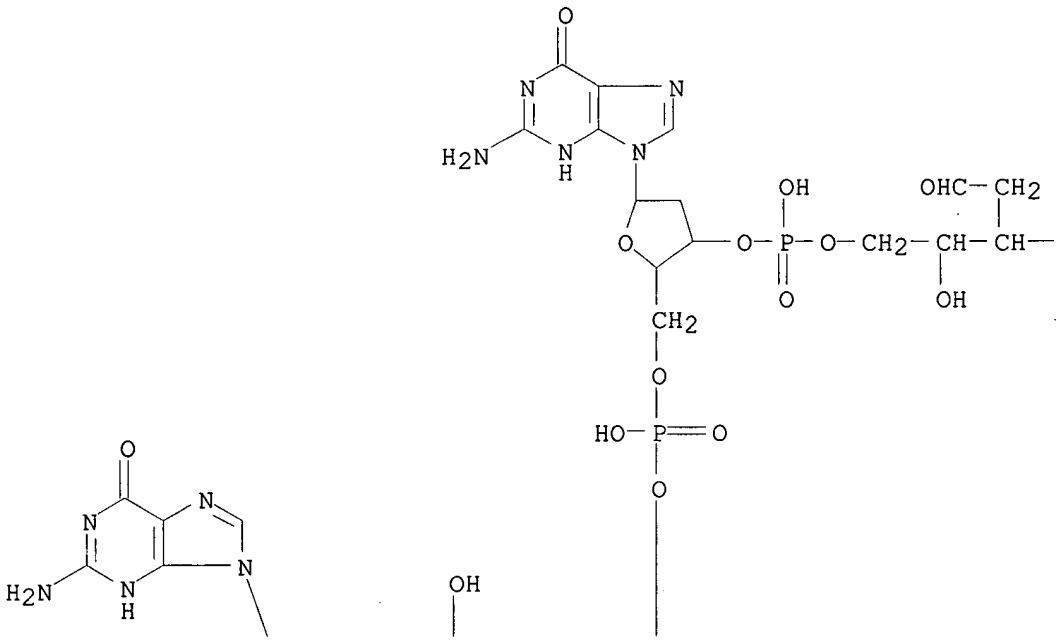
AB The synthetic heptameric heteroduplex of d(GCGDGCG) paired with d(CGCACGC), where D is the deoxyribose abasic site, was a substrate for UV-endonuclease (endonuclease V) from phage T4. The structure of the product contg. the carbohydrate derived from the abasic site was established using a heteroduplex in which the abasic site was labeled with 13C in the 1- and 3-C atoms. The 13C NMR spectra of the endonuclease-catalyzed reaction as a function of time revealed that the endonuclease catalyzes a .beta.-elimination reaction to yield an .alpha.,.beta.-unsatd. aldehyde; this product subsequently undergoes the slow addn. of nucleophiles present in the reaction soln. to yield mixts. of 3-C adducts.

IT **112969-11-6**
RL: RCT (Reactant)
(cleavage of, by endonuclease V of phage T4, mechanism of)
RN 112969-11-6 HCAPLUS
CN Guanosine, 2'-deoxyguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxyguanylyl-(3'.fwdarw.5)-2-deoxy-D-erythro-pentos-3-O-ylphosphinico-(3.fwdarw.5')-2'-deoxyguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-, complex with 2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxyguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxyguanylyl-(3'.fwdarw.5')-2'-deoxycytidine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 112969-10-5
CMF C63 H82 N26 O40 P6

PAGE 1-A



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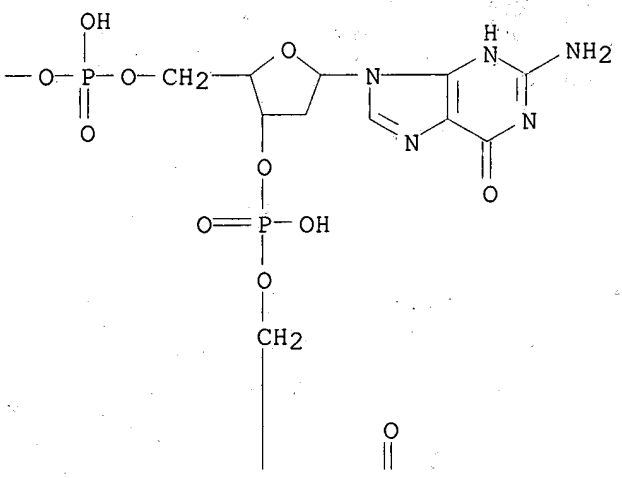

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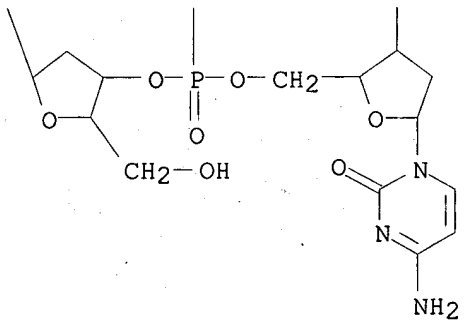

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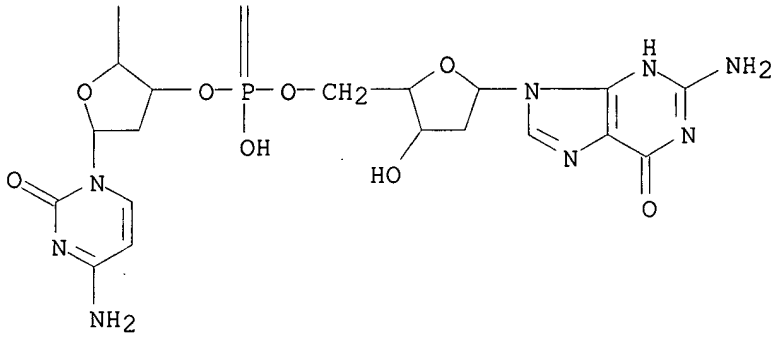
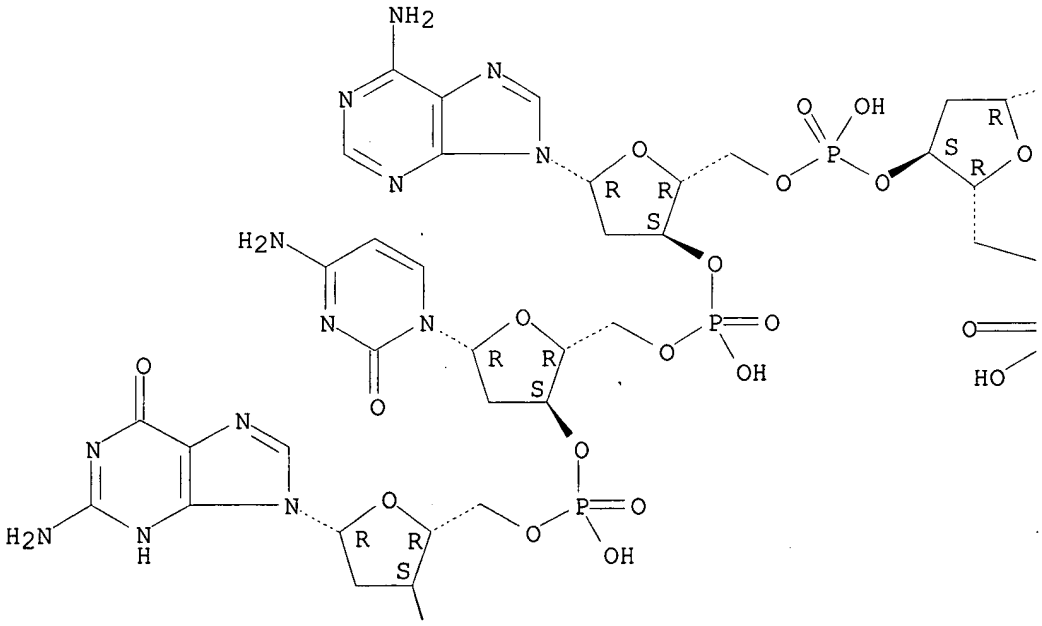


CM 2

CRN 111350-51-7
CMF C66 H85 N27 O39 P6

Absolute stereochemistry.

PAGE 1-A



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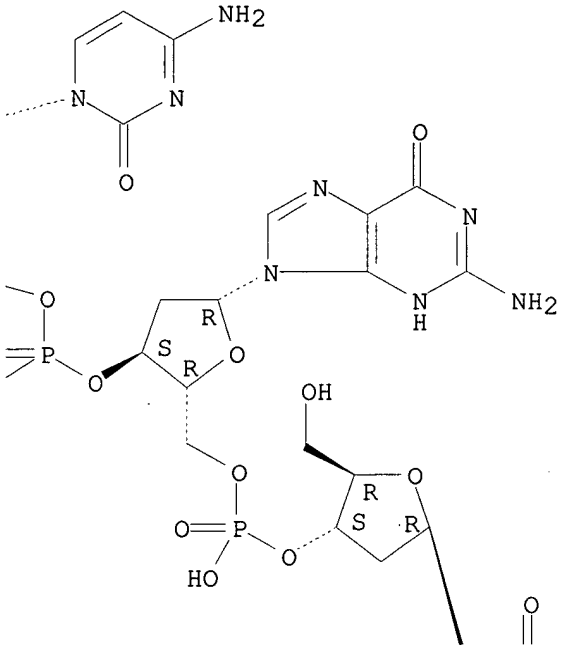

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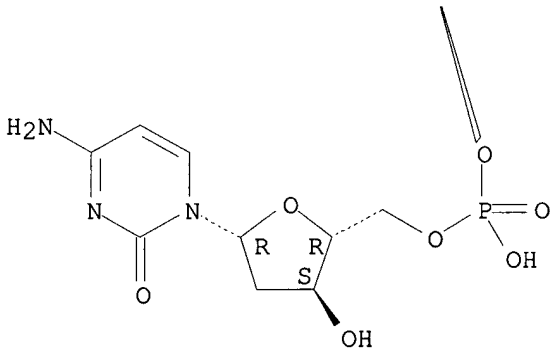

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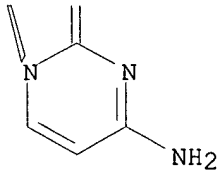


L11 ANSWER 17 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1980:111255 HCAPLUS
DOCUMENT NUMBER: 92:111255
TITLE: Synthesis of a promoter region of **bacteriophage** fd DNA. I. Chemical synthesis of oligodeoxyribonucleotides corresponding to the 5'-terminal fragment of the "minus" strand of the promoter
AUTHOR(S): Efimov, V. A.; Chakhmakhcheva, O. G.
CORPORATE SOURCE: M. M. Shemyakin Inst. Bioorg. Chem., Moscow, USSR
SOURCE: Bioorg. Khim. (1979), 5(9), 1329-40
CODEN: BIKHD7
DOCUMENT TYPE: Journal
LANGUAGE: Russian

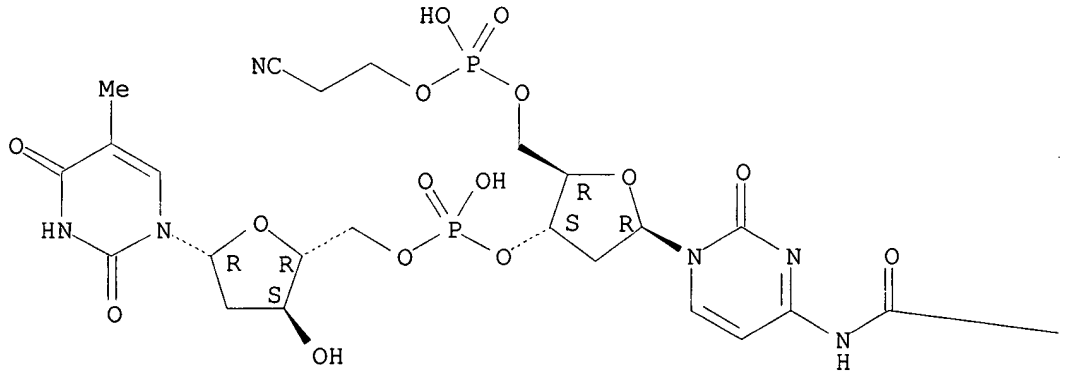
AB Deoxyribonucleotides d(A-A-A-T-C-A-G-G-T-C-T-T-T) and d(A-C-C-C-T-G-T-C-T-A) corresponding to the (+15)-(-8) fragment of the minus strand of the G2 promoter region of phage fd DNA were synthesized by the phosphodiester method according to 1+1+1+2+2+2+4 and 1+1+1+2+2+3 schemes. The obtained compds. were 5'-phosphorylated by [.gamma.-32P] and T4 polynucleotide kinase and their structures confirmed by nucleotide mapping techniques.

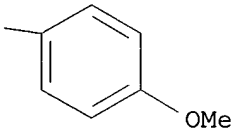
IT **58781-33-2**
RL: RCT (Reactant)
(nucleotide coupling of, with thymidine dinucleotide)

RN 58781-33-2 HCAPLUS
CN Thymidine, 5'-O-[(2-cyanoethoxy)hydroxyphosphinyl]-2'-deoxy-N-(4-methoxybenzoyl)cytidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





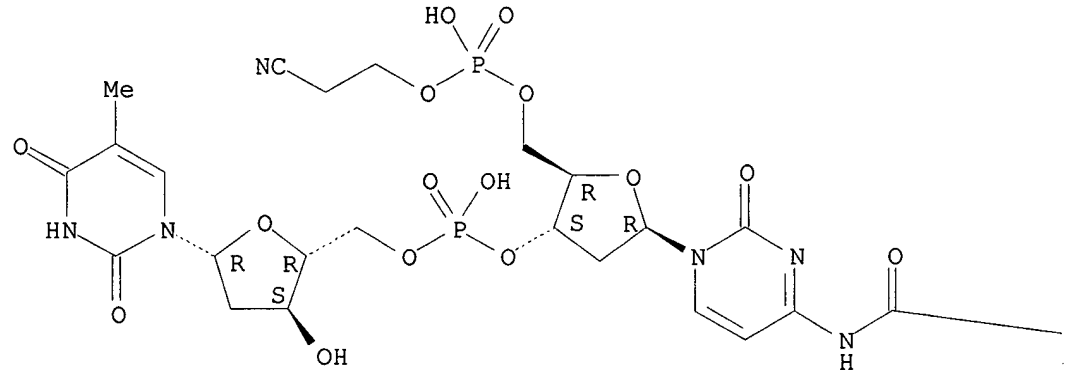
L11 ANSWER 18 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1978:148031 HCAPLUS
DOCUMENT NUMBER: 88:148031
TITLE: T4 polynucleotide ligase catalyzed joining of short synthetic DNA duplexes at base-paired ends
AUTHOR(S): Deugau, Ken V.; Van de Sande, Johan H.
CORPORATE SOURCE: Div. Med. Biochem., Univ. Calgary, Calgary, Alberta, Can.
SOURCE: Biochemistry (1978), 17(4), 723-9
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The self-complementary octanucleotide, dT-A-G-T-A-C-T-A, was synthesized and its sequence confirmed by 2-dimensional fingerprinting. Under conditions used for the phage T4 polynucleotide ligase reaction, this oligonucleotide forms a dimeric duplex which shows a Tm of 18.degree.. The optimal rate of joining of the 32P-labeled duplex occurs between 12 and 15.degree.. The rate is highly concn.-dependent, as expected for a bimol. process. Polyacrylamide gel electrophoretic anal. of this reaction shows the presence of products up to 120 nucleotides in length. In a denaturing gel, each product appears as double band due to the presence of its 5'-adenylylated activated intermediate. Substrates >8 base pairs are utilized more rapidly than the 8 base pair duplex, indicating that the T4 ligase has a higher affinity for longer substrates. The low level of nicked intermediates suggests that the joining of both strands requires 2 steps, the rates of which must be similar.

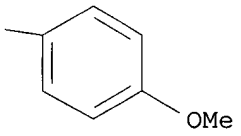
IT **58781-33-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and coupling reaction of)
RN 58781-33-2 HCAPLUS
CN Thymidine, 5'-O-[(2-cyanoethoxy)hydroxyphosphinyl]-2'-deoxy-N-(4-methoxybenzoyl)cytidylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



L11 ANSWER 19 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1970:425810 HCAPLUS
DOCUMENT NUMBER: 73:25810
TITLE: Oligonucleotidic compounds. XXXVI. Synthesis of uridylyl-(5'.far.3)-uridylyl-(5'.far.5')-uridylyl-(3'.far.5')-uridine and its priming activity for polynucleotide phosphorylase
AUTHOR(S): Smrt, Jiri; Cramer, Friedrich
CORPORATE SOURCE: Cesk. Akad. Ved., Prague, Czech.
SOURCE: Collect. Czech. Chem. Commun. (1970), 35(5), 1456-63
CODEN: CCCCAK
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The title compd. (I) was obtained in 7% yield by condensation of 2'-O-tetrahydropyranyluridylyl-(3' .fwdarw. 5')-2',3'-O-ethoxymethyleneuridine (II) and 5'-O-phosphono-2'-O-tetrahydropyranyluridylyl-(3' .fwdarw. 5')-2',3'-O-

ethoxymethyleneuridine (III) in the presence of 2,4,6-iso-Pr3C6H2SO2Cl. II was prepd. from 2'-O-tetrahydropyranyl-5'-O-acetyluridine 3'-phosphate and 2',3'-O-ethoxymethyleneuridine by the N,N'-dicyclohexylcarbodiimide method, and III was obtained by phosphorylation of II. The priming activity of I, estd. in the polymn. of ADP by primer-dependent polynucleotide phosphorylase (IV), was almost double that of uridylyl-(3' .fwdarw. 5')-uridine. Participation of both portions of the mol. contg. internucleotide linkage in the interaction with the enzyme accounted for this increased activity. I also primed the reaction of IDP and IV in the presence of ribonuclease T1 yielding 3'-IMP and 3'-O-phosphorylinosinyl-(5' .fwdarw. 3')-uridylyl-(5' .fwdarw. 3')-uridylyl-(5' .fwdarw. 5')-uridylyl-(3' .fwdarw. 5')-uridylyl-(4' .fwdarw. 5')-inosine 3'-phosphate, which was degraded by **bacterial** alk. phosphatase and pancreatic ribonuclease to yield 3'-O-phosphoryluridylyl-(5' .fwdarw. 5')-uridine 3'-phosphate, inosine, and 3'-UMP approx. in the ratio 1:2:2.

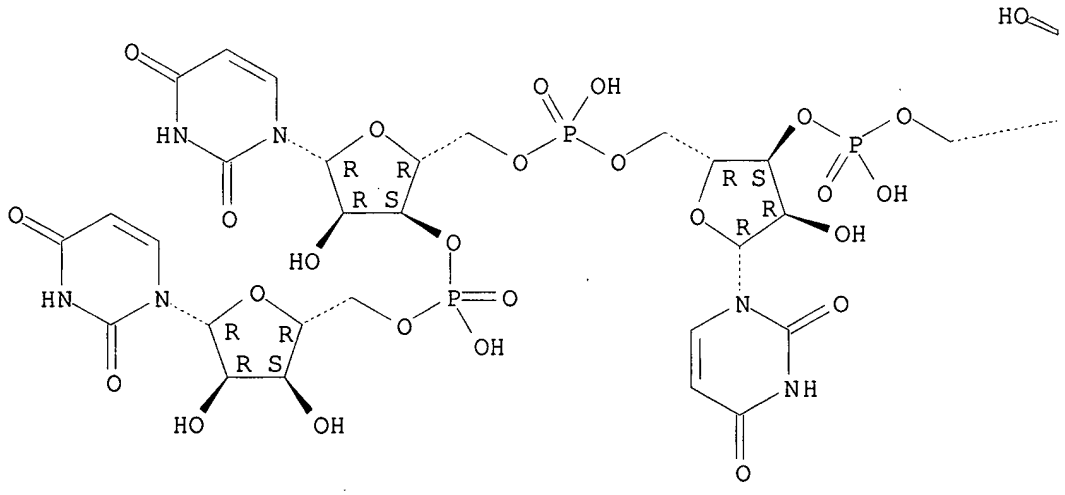
IT **28440-24-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

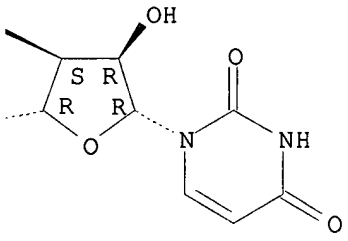
RN 28440-24-6 HCAPLUS

CN Uridine, uridylyl-(5'.fwdarw.3')-uridylyl-(5'.fwdarw.5')-uridylyl-(3'.fwdarw.5')- (8CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



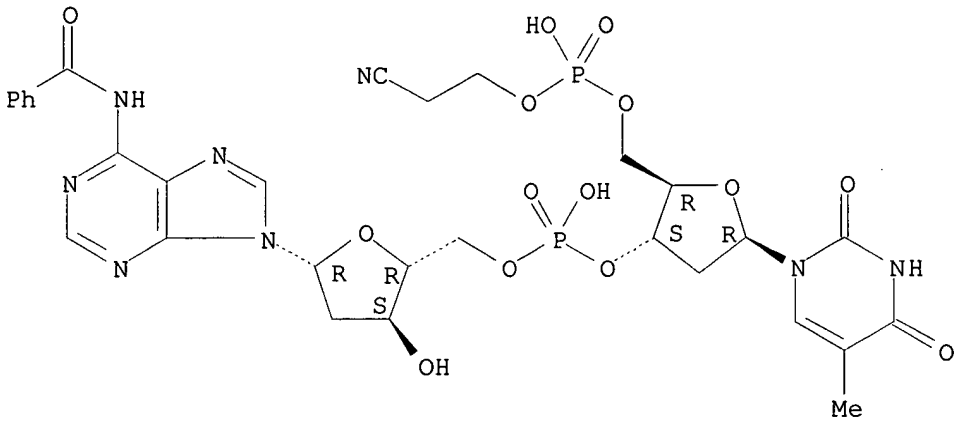


L11 ANSWER 20 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1969:422298 HCAPLUS
DOCUMENT NUMBER: 71:22298
TITLE: Polynucleotides. XCII. Synthesis of a deoxyribododecanucleotide containing specific amino acid codons
AUTHOR(S): Kumar, Ashok; Khorana, Har G.
CORPORATE SOURCE: Univ. of Wisconsin, Madison, Wis., USA
SOURCE: J. Amer. Chem. Soc. (1969), 91(10), 2743-9
CODEN: JACSAT
DOCUMENT TYPE: Journal
LANGUAGE: English

AB High mol. wt. deoxyribopolynucleotides with repeating nucleotide sequences were previously shown to direct the synthesis of polypeptides in the **bacterial** cell-free protein synthesizing system. With the aim of synthesizing polypeptides contg. specific amino acid sequences via nucleic acid templates, a deoxyribododecanu-cleotide was now synthesized. The synthetic polynucleotide, d-A-T-G-C-A-C-T-C-T-T-A-G, contains at the appropriate 5' end the trinucleotide sequence A-T-G, which stands for formylmethionine and initiates the synthesis of peptide chain, and at the 3' end the sequence T-A-G, which should terminate and release the polypeptide chain. The codons selected for internal positions were C-A-C (histidine) and T-C-T (serine). The protected trinucleotide blocks d-MMTr-ABZpTpGiso-Bu, d-pCAnpABzpCAn-OAc, d-pTpCAnpT-OAc, and d-pTpABzpGiso-Bu-OAc were prepd. by stepwise methods using the protected nucleoside and nucleotides. The blockwise condensations of the protected trinucleotides to form the dodecanucleotide were carried out using mesitylenesulfonyl chloride as the condensing agent, yields in the individual steps being 30-50%.

IT **24638-85-5P 24816-20-4P 24934-67-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 24638-85-5 HCAPLUS
CN Adenosine, 5'-O-[(2-cyanoethoxy)hydroxyphosphinyl]-thymidylyl-(3'.fwdarw.5')-N-benzoyl-2'-deoxy- (9CI) (CA INDEX NAME)

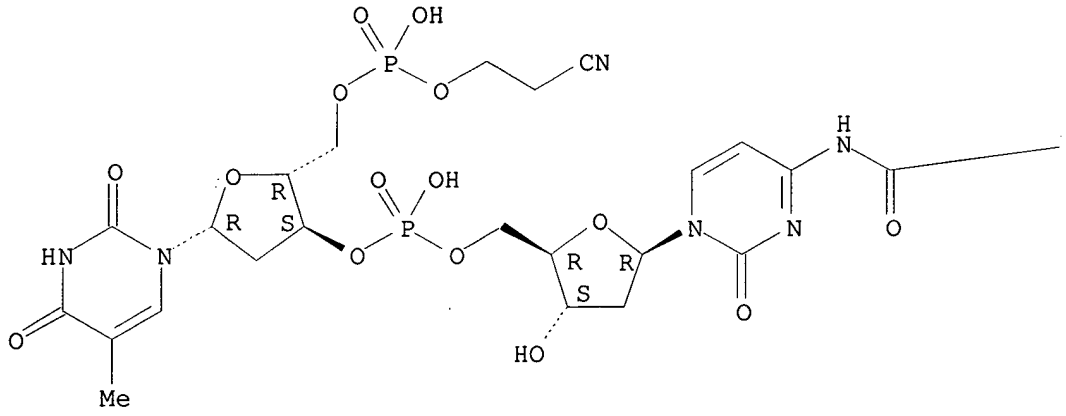
Absolute stereochemistry.



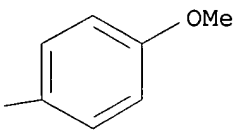
RN 24816-20-4 HCAPLUS
CN Cytidine, P-(2-cyanoethyl)-5'-O-phosphonothymidylyl-(3'.fwdarw.5')-2'-deoxy-N-(4-methoxybenzoyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



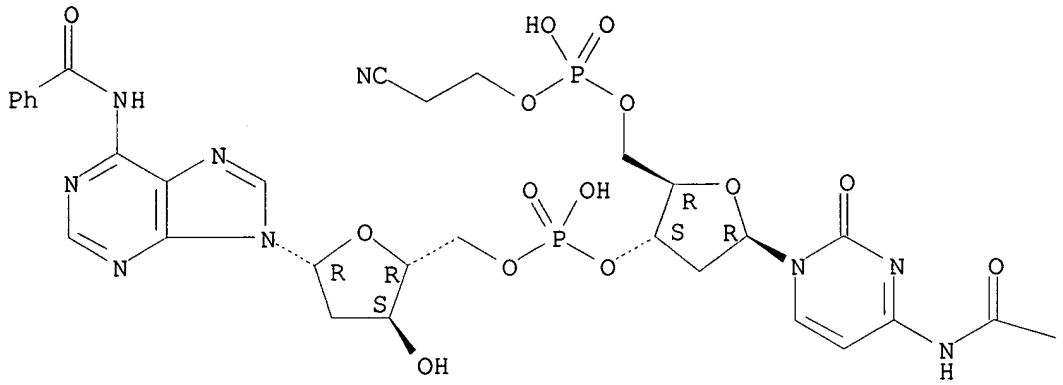
PAGE 1-B



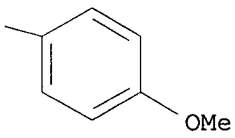
RN 24934-67-6 HCAPLUS
CN Adenosine, 5'-O-[(2-cyanoethoxy)hydroxyphosphinyl]-2'-deoxy-N-(4-methoxybenzoyl)cytidylyl-(3'.fwdarw.5')-N-benzoyl-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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24638-85-5/BI OR 24816-20-4/BI OR 24934-67-6/BI OR
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FILE 'CAOLD' ENTERED AT 15:33:10 ON 09 OCT 2002
L13 0 S L12

FILE 'USPATFULL' ENTERED AT 15:33:15 ON 09 OCT 2002
L14 5 S L12

L14 ANSWER 1 OF 5 USPATFULL

ACCESSION NUMBER:	2002:55001 USPATFULL
TITLE:	Antimicrobial compounds and methods for their use
INVENTOR(S):	Dale, Roderic M. K., Wilsonville, OR, UNITED STATES Gatton, Steven L., Lake Oswego, OR, UNITED STATES Arrow, Amy, Bethel, ME, UNITED STATES Thompson, Terry, West Linn, OR, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002032164	A1	20020314
APPLICATION INFO.:	US 2001-847654	A1	20010503 (9)

RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1999-281858, filed on 31 Mar 1999, PENDING Continuation-in-part of Ser. No. US 1998-222009, filed on 30 Dec 1998, GRANTED, Pat. No. US 6211349
DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	Beth A. Burrous, FOLEY & LARDNER, Washington Harbour, 3000 K Street, N.W., Suite 500, Washington, DC, 20007-5109
NUMBER OF CLAIMS:	36
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	8 Drawing Page(s)
LINE COUNT:	1406

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides protonated compounds having antimicrobial activity. The invention also provides antimicrobial compositions comprising protonated compounds of the invention. The protonated compounds of the invention provide efficacious antimicrobial activity against resistant strains of bacteria and opportunistic fungi.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 2 OF 5 USPATFULL

ACCESSION NUMBER:	2001:48036 USPATFULL
TITLE:	Pulmonary delivery of protonated/acidified nucleic acids
INVENTOR(S):	Dale, Roderic M. K., Wilsonville, OR, United States Gatton, Steven L., Lake Oswego, OR, United States Arrow, Amy, Bethel, ME, United States
PATENT ASSIGNEE(S):	Oligos Etc. Inc., Wilsonville, OR, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6211162	B1	20010403
APPLICATION INFO.:	US 1999-282824		19990331 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1998-222009, filed on 30 Dec 1998		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Clark, Deborah J. R.		
ASSISTANT EXAMINER:	Chen, Shin-Lin		
LEGAL REPRESENTATIVE:	Bozicevic, Field & Francis LLP, DeVore, Dianna L.		
NUMBER OF CLAIMS:	15		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1501		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a method of treating bacterial respiratory infections by pulmonary administration of protonated/acidified nucleic acids. These modified nucleic acids are effective as bactericidal and/or bacteriostatic agents without regard to the class of bacteria, so are especially useful when diagnosis is difficult or when multiple infectious organisms are present. The antibiotic activity of nucleic acids of the invention is not dependent on either the specific sequence of the nucleic acid or the length of the nucleic acid molecule.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 3 OF 5 USPATFULL

ACCESSION NUMBER:	1999:128744 USPATFULL			
TITLE:	Nucleic acid probes chemically modified at 5'(OH) and/or at 3'(OH) for the purpose of introducing one or more non-radioactive marking elements at these sites, and method for preparing the same			
INVENTOR(S):	De Vos, Marie-Joelle, Feluy, Belgium Bollen, Alex, Itterbeek, Belgium			
PATENT ASSIGNEE(S):	La Region Wallone, Brussels, Belgium (non-U.S. corporation)			
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5969128		19991019	
	WO 9419364		19940901	
APPLICATION INFO.:	US 1995-507283		19950821	(8)
	WO 1994-BE13		19940218	
			19950821	PCT 371 date
			19950821	PCT 102(e) date
	NUMBER		DATE	
PRIORITY INFORMATION:	BE 1993-160		19930219	
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	Granted			
PRIMARY EXAMINER:	Houtteman, Scott W.			
LEGAL REPRESENTATIVE:	Sughrue, Mion, Zinn, Macpeak & Seas, PLLC			
NUMBER OF CLAIMS:	6			
EXEMPLARY CLAIM:	1			
NUMBER OF DRAWINGS:	15 Drawing Figure(s); 8 Drawing Page(s)			
LINE COUNT:	1681			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The probe comprises: a) an oligonucleotide or oligodeoxyribonucleotide part constituted by a DNA or RNA nucleic acid sequence S, depending on the type of molecule to be detected, and b) a non-nucleotide part possessing chemical properties enabling direct or indirect atttachment of one or more detection units or marking elements M detectable non-isotopically by production of colour or light. The probe is characterized by the fact that part b) is constituted by a chain of phosphate units interspersed with alkyl groups, viz.: b1) certain alkyl groups uniting the different phosphate groups and presenting no special functionality b2) alkyl groups presenting primary amine groups which allow splicing with varied reagents to carry out direct or indirect detection, the b2) groups being bonded to part a) or sequence S by way of groups b1). Sequence S is bonded at its 5' and/or 3' extremity to one or more marking elements M. The probes of this type are used to detect and diagnose hereditary genetic diseases, oncogenes, viral, bacterial or parasitic diseases.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 4 OF 5 USPATFULL

ACCESSION NUMBER:	97:14599 USPATFULL			
TITLE:	Improvements in or relating to DNA cloning techniques and products for use therewith			
INVENTOR(S):	Taylor, Philip N., Nr Dartford, United Kingdom			
PATENT ASSIGNEE(S):	The University of Hull, Hull, United Kingdom (non-U.S. corporation)			
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5604122		19970218	
	WO 9319186		19930930	
APPLICATION INFO.:	US 1994-307713		19941114	(8)
	WO 1993-GB584		19930322	
			19941114	PCT 371 date
			19941114	PCT 102(e) date
	NUMBER		DATE	
PRIORITY INFORMATION:	GB 1992-6210		19920321	
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	Granted			
PRIMARY EXAMINER:	Fleisher, Mindy			
ASSISTANT EXAMINER:	Brusca, John S.			
LEGAL REPRESENTATIVE:	Leydig, Voit & Mayer, Ltd.			
NUMBER OF CLAIMS:	17			
EXEMPLARY CLAIM:	1			
LINE COUNT:	873			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of cloning foreign DNA into a DNA vector comprising ligating:

(1) a DNA vector having a single stranded DNA overhang at each end, said overhangs being mutually incompatible so as to prevent self-religation, with

(2) a linear piece of foreign DNA having a single stranded DNA

overhang at each end,

each foreign DNA overhang being complementary to but at least one base shorter than each of the vector overhangs and being capable of base pairing along the entire length of the overhang with one of the vector overhangs, and sealing the gap by either transforming the double stranded DNA having a gap therein into a suitable bacterium or transfecting it into a suitable bacterium after packaging it into a suitable bacteriophage.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 5 OF 5 USPATFULL

ACCESSION NUMBER:	96:113828 USPATFULL
TITLE:	Method of cleaving specific strands of RNA
INVENTOR(S):	Torrence, Paul, Silver Spring, MD, United States Silverman, Robert, Shaker Heights, OH, United States Maitra, Ratan, Euclid, OH, United States Lesiak, Krystyna, Gaithersburg, MD, United States
PATENT ASSIGNEE(S):	The Cleveland Clinic Foundation and National Institutes of Health, Bethesda, MD, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5583032		19961210
APPLICATION INFO.:	US 1993-123449		19930917 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1992-965666, filed on 21 Oct 1992, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Rories, Charles C. P.		
LEGAL REPRESENTATIVE:	Pennie & Edmonds		
NUMBER OF CLAIMS:	21		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	12 Drawing Figure(s); 12 Drawing Page(s)		
LINE COUNT:	2560		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of using a chimeric molecule made up of an antisense oligonucleotide attached to a 2',5'-oligoadenylate molecule to specifically cleave a sense strand of RNA, wherein the antisense oligonucleotide of the chimeric molecule is hybridized to the sense strand of RNA in the presence of 2',5'-dependent RNase.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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